


LabReporter

U.S.: 1-800-766-7000 www.fishersci.com
 Canada: 1-800-234-7437 www.fishersci.ca

118.71 Og Oganesson	121.76 Sb Antimony	127.60 Te Tellurium	126.90 I Iodine	127.60 Xe Xenon	132.91 Ba Barium
81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98	84 Po Polonium 209	85 At Astatine 210	86 Rn Radon 222
113 Uut Ununtrium	114 Uuq Ununquadium 289	115 Uup Ununpentium	116 Uuh Ununhexium	117 Uus Ununseptium	118 Uuo Ununoctium
67 Ho Holmium 164.93	68 Er Erbium 1.0079	69 Tm Thulium 168.93	70 Yb Ytterbium 173.04	71 Lu Lutetium 174.967	72 Hf Hafnium 178.49
99 Es Einsteinium 252	100 Fm Fermium 257	101 Md Mendelevium 258	102 No Nobelium 259	103 Lr Lawrencium 260	104 Rf Rutherfordium 261

FOUR NEW ELEMENTS COMPLETE SEVENTH ROW OF PERIODIC TABLE

CULTURED MEAT
 COULD HELP SAVE THE ENVIRONMENT

 **HOW GREEN IS YOUR LAB?**
 ENTER FOR A CHANCE TO WIN FISHERBRAND PRODUCTS!

COMBATING FRAUD
 A MATTER OF CONNECTING THE DOTS

PROTEIN SHOWS PROMISE
 IN TREATMENT OF SPINAL CORD INJURIES

Welcome to 2016

LabReporter

A Quarterly Fisher Scientific Publication

LabReporter provides quick and easy access to today's cutting-edge products and trusted solutions for all of your scientific research and applications.



Are you a Subscriber?

In every issue, you'll receive:

- Essential resources, current promotions and special pricing from premium suppliers
- Interesting and relevant editorial content that explores the latest headlines and leading scientific research

Sign up today! www.fishersci.com/labreporter

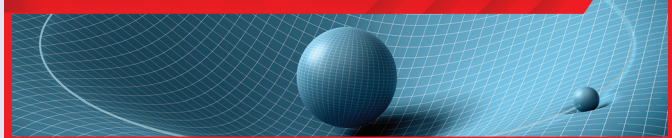
FEATURED ARTICLE

81 Tl 204.38 Thallium	82 Pb 207.2 Lead	83 Bi 208.98 Bismuth	84 Po 209 Polonium	85 At 210 Astatine	86 Rn 222 Radon
113 Uut Ununtrium	114 Uuq 289 Ununquadium	115 Uup Ununpentium	116 Uuh Ununhexium	117 Uus Ununseptium	118 Uuo Ununoctium
67 Ho 164.93 Holmium	68 Er 167.26 Erbium	69 Tm 168.93 Thulium	70 Yb 173.04 Ytterbium	71 Lu 174.96 Lutetium	72 Hf 178.49 Hafnium
109 Nh 100 Nihonium	110 Dh 101 Darmstadtium	111 Rg 102 Roentgenium	112 Uue 103 Unbinilium	113 Uut 104 Untrium	114 Uuq 105 Unquadium

FOUR NEW ELEMENTS COMPLETE SEVENTH ROW OF PERIODIC TABLE **PAGE 32**

Four new elements have been added to the periodic table, completing the seventh row. Discoveries of the four new elements, all of which are manmade and superheavy, were made by scientists spread across the globe.

CHEMICALS AND CHROMATOGRAPHY



Gravitational Waves Finally Detected **PAGE 4**

CONSUMABLES



Cultured Meat Could Help Save the Environment **PAGE 10**

LAB EQUIPMENT



Combating Fraud: A Matter of Connecting the Dots **PAGE 18**

LIFE SCIENCE



Protein Shows Promise in Treatment of Spinal Cord Injuries **PAGE 36**



HOW GREEN IS YOUR LAB? **PAGE 43**

ENTER FOR A CHANCE TO WIN FISHERBRAND PRODUCTS!

CHEMICALS AND CHROMATOGRAPHY

Alfa Aesar and Acros Organics Products	7
Decon Products for Molecular Biology	8
Fisher BioReagents FastRun Tris SDS PAGE Running Buffer, 10X	5
Fisher Chemical Gas Chromatography (GC) Headspace	6
Fisher Scientific Traceable pH Buffer Standards Certified Reference Material (CRM) (COLOR)	9
Ricca Chemical Company Ready-to-Use Titrants	8
Thermo Scientific Virtuoso Vial Identification System	9

CONSUMABLES

Brady BMP51 Label Maker	15
Duran HPLC Bottles and Accessories	12
Honeywell Uvex Safety Eyewear with HydrosShield Anti-Fog Lens Coating	15
Kimberly-Clark Green Nitrile Powder-Free Exam Gloves	13
Kimble Hydrometers	13
Microflex XCEED Disposable Nitrile Gloves	15
Thermo Scientific BioLite Filter Units	11
Thermo Scientific E1-ClipTip Equalizer Adjustable Tip Spacing Electronic Pipettes	16

Thermo Scientific Spot the Difference	17
WHEATON Media Bottles	14

LAB EQUIPMENT

AirClean Systems Laboratory Safety Solutions	32
Bel-Art HiFlow Vacuum Aspirator Collection System	27
BioTek Multi-Mode Microplate Readers	26
BrandTech BRAND Dispensette S Bottletop Dispensers	28
Corning LSE Equipment Line	25
Fisher Scientific accumet AE150 Benchtop Meter	20
Fisher Scientific Bead Mill Homogenizers	24
Fisherbrand Chairs	21
Gilson PIPETMAN L Pipettes	30
Heidolph Hei-VAP Series Rotary Evaporators	29
KNF LABOPORT Vacuum Pumps	30
Labconco Purifier Axiom Biosafety Cabinets	21
Mettler Toledo Balances	19
Ohaus Pioneer Analytical and Precision Balances	31
Sartorius pHBasic Meters and GoldLINE Electrodes	22

Sartorius Tacta Mechanical Pipettes	23
Sonoco ThermoSafe Via Blood Transfer	27
Thermo Scientific Easy Auto-Lock Rotor Exchange	27
Thermo Scientific Precision Water Baths	24
Thermo Scientific SPECTRONIC 200 Spectrophotometer	24
Welch ChemStar Dry	27

LIFE SCIENCE

Abnova Monoclonal Antibodies	38
EMD Millipore Stericup	39
Fisher Scientific accuSkan GO UV/VIS Microplate Spectrophotometer	41
Fisher Scientific How Green Is Your Lab?	43
Fisher Scientific Lab Essentials Catalog	40
Fisher Scientific Life Science Solutions	42
Fisher Scientific New Lab Start-Up Program	44
Fisher Scientific Paddle Blender	38
MP Biomedicals FastPrep Systems	37
TransIT-X2 Dynamic Delivery System	38

Note: Prices are U.S. list prices — pricing may vary in Canada.

Trademarks of our valued suppliers: Abnova, AirClean Systems, Alfa Aesar, Ansell, Auto-Lock, Axiom, Bel-Art, BioLite, Biotek, Brady, BRAND, BrandTech, ChemStar, Chem-Zone, Corning, Cytation, Decon, Dispensette, Duran, eLIMINase, EMD Millipore, ERGOFORM, FastPrep, FastRun Gilson, Heidolph, Hei-VAP, HiFlow, Honeywell, HydrosShield, Kimberley-Clark, Kimble, KNF, Labconco, LABOPORT, Mettler Toledo, Microflex, MP Biomedicals, MyLogic, Ohaus, Omni-Flex, PIPETMAN, Ricca Chemical Company, Sartorius, ScrubAir, Sonoco, SPECTRONIC, SP Scienceware, Stericup, Synergy, SureOne, Thermo Scientific, ThermoSafe, Traceable, TransIT-X2, Uvex, Vacu-Pass, Virtuoso, WHEATON, Welch, XCEED

Trademarks of Fisher Scientific: Acros Organics, accumet, accuSkan, Fisherbrand, Fisher Chemical, Fisher Scientific, LabReporter

For trademark ownership, see www.fishersci.com/trademarks.

CHEMICALS

GRAVITATIONAL WAVES

Finally Detected

Einstein has been proven right once again.

by Mike Howie

Researchers at the Laser Interferometer Gravitational-Wave Observatory, or LIGO, have detected gravitational waves, the last part of Einstein's theory of relativity that had yet to be proven. The waves they detected were created over a billion years ago, when two massive black holes collided to form one even larger black hole in a distant part of the universe.

What are Gravitational Waves?

Every object, no matter how large or how small, creates a gravitational field. Large objects, like planets and stars, create large gravitational fields. Small objects, like a person or a car, create gravitational fields so weak that they

might as well not exist. What we experience as gravity is actually a distortion in space-time. The best way to illustrate this is with a stretched sheet. The sheet is space-time, and anything you place on the sheet is an object in the universe. A large, heavy object will produce a large dent in the sheet, while a smaller, lighter object will only produce a small dent. Those dents are gravitational pull that objects can get stuck in — they're the reason a smaller object, like a planet, orbits a larger object, like a star. But the objects in our universe don't sit in one position in space. They move around, taking their dents in space-time with them. When these objects move through space they produce

ripples in space-time, similar to the way a boat produces ripples in water as it sails along. As the waves move through space, they stretch and compress whatever they pass very slightly. For the most part, these waves are so miniscule that they're basically zero.

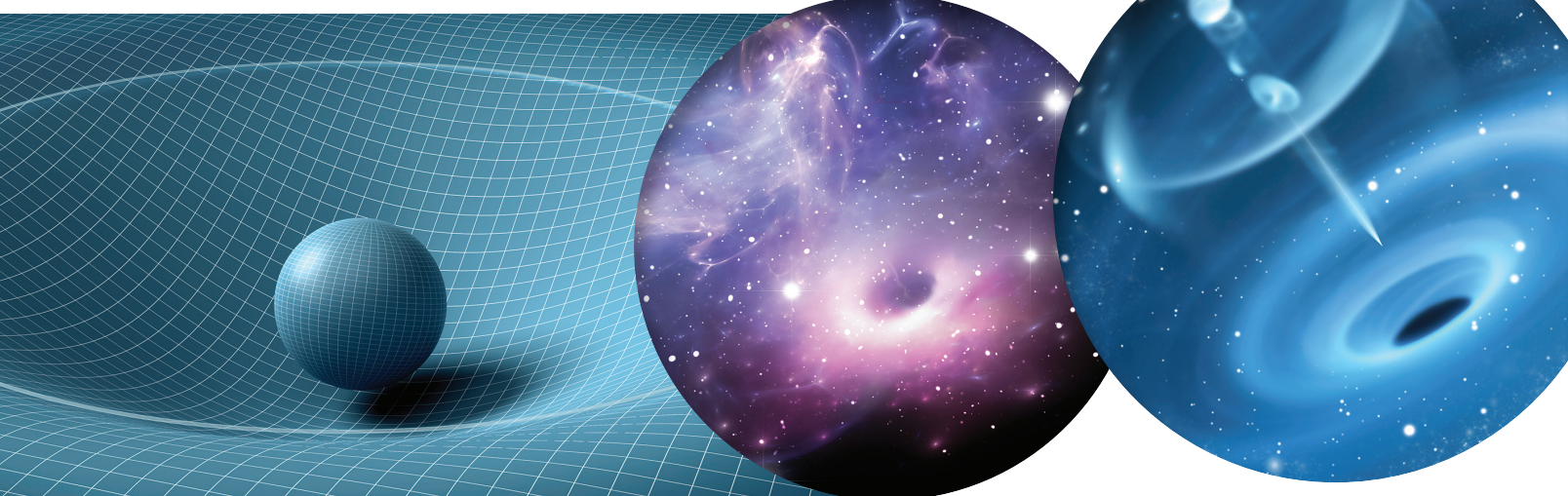
However, there are some objects that create gravitational waves large enough that we can detect them. Black holes have immense gravitational fields, so large that not even light can escape. And when they collide they create an explosion that produces larger gravitational waves than either black hole could create independently. But, just like ripples in a pond, the waves get smaller and

smaller the farther and longer they travel. By the time the waves recently detected reached Earth, they were so small that even a car driving over a speed bump could produce interference.

How'd They Do It?

Detecting something so minute takes a lot of hard work and advanced equipment. LIGO used two different facilities in their experiment, one in Louisiana and one in Washington State. Each facility consists of two vacuum-sealed tubes, each four kilometers (two and a half miles) long, that form an "L." A laser is fired and split to go down each tube. At the end of each tube there is a mirror that bounces the laser back to its origin. When

a gravitational wave passes these mirrors, it distorts space-time temporarily, making one mirror farther from the origin than the other. Based on how long it takes the laser to return, the researchers can detect whether or not a gravitational wave has passed.





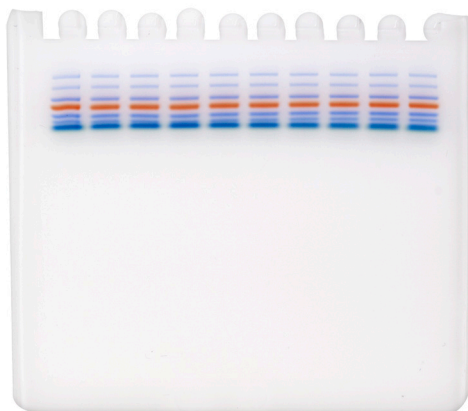
Clear Results in Significantly Less Time

Fisher BioReagents FASTRun Tris SDS PAGE Running Buffer, 10X

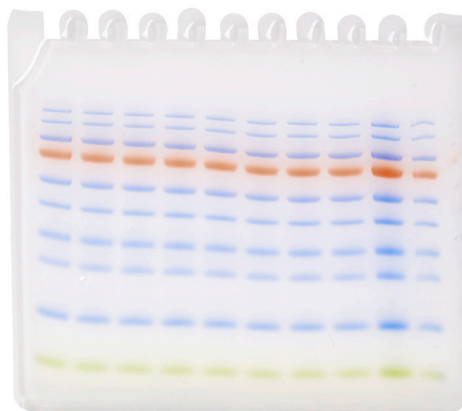
The speed, wide separation range and resolution of FASTRun Tris SDS PAGE Running Buffer on Tris-Glycine gels sets a new standard for Protein Electrophoresis and saves you money by saving time. FASTRun Tris SDS PAGE Running Buffer, 10X will significantly cut the time spent waiting for gels to run while providing comparable or better resolution and a broad MW separation range! It is designed to be used with readily available Tris-Glycine polyacrylamide gels, precast or homemade. Recommended voltage is 200 V. Even when run under your current conditions, FASTRun Tris SDS PAGE Running Buffer will reduce the time spent waiting for results.

- Save significant time, increase your lab productivity up to 3X so you can publish faster
- Novel buffer chemistry gives you comparable or better resolution and a broad MW separation range compared to traditional Tris-Glycine-SDS buffer, thus requiring fewer TG gel compositions to fully resolve a protein
- Compatible with standard polyacrylamide gels, whether you buy premade or pour your own
- Compatible with all commercially available protein electrophoresis tanks

Faster Results



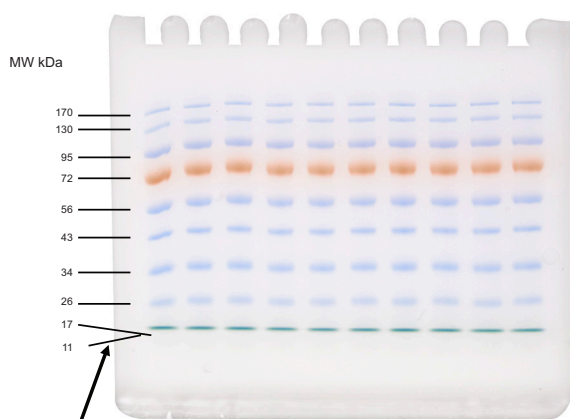
125 V Traditional Tris-Glycine SDS 25 min



200 V FASTRun Buffer 25 min

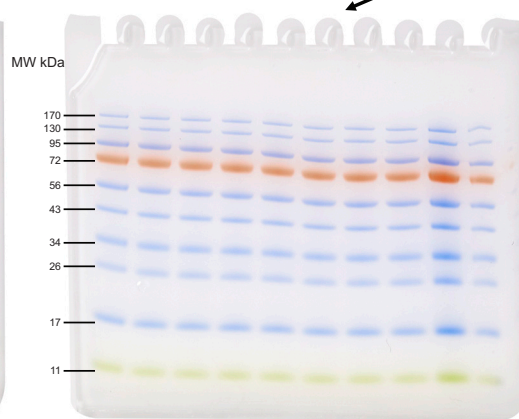
High Resolution with Faster Run Time Broad MW Separation Range

9 bands



125 V Traditional Tris-Glycine SDS 90 min

10 bands



200 V FASTRun Buffer 25 min

Bands 17 & 11 together

Recommended Electrophoresis Conditions and Typical Results

Description	Quantity	Cat. No.	Each
Tris SDS PAGE Running Buffer, 10X	500mL	BP881-500	69.50
Tris SDS PAGE Running Buffer, 10X	1L	BP881-1	81.76

CHROMATOGRAPHY SPECIALS

Fisher Chemical Delivers Reliability. Purity. Certainty.

Find Impurities in the Sample, Not from your Sample Prep.

Headspace Grade Solvents for Trace Level Analyte Detection



Gas Chromatography (GC) Headspace Solvents

High purity solvents for accurate and reliable analysis of volatile organic compounds (VOC) by gas chromatography headspace (GC-HS).

The determination of residual solvents (volatile organic compounds) by GC headspace is an important quality control procedure in the pharmaceutical industry. Residual solvent testing is defined in accordance with the ICH and required by USP and Ph. Eur. The technique requires extraction of residual solvents from the sample using a high-purity solvent free of contaminants that could interfere with GC analysis by co-eluting with the peaks of interest. ICH guidelines include maximum concentration limits for Class 1, Class 2, and Class 3 residual solvents (most to least toxic, respectively). GC Headspace solvents from Fisher Chemical are performance tested to ensure the absence of trace level ICH residual solvents.

Processed to high purity for accurate and repeatable determination of trace levels of Class 1, Class 2 and Class 3 residual solvents in pharmaceuticals

- Tested by UV absorbance to ensure low organic contamination
- Processed for low water content to facilitate the extraction of organic volatile impurities
- Packaged in an inert atmosphere to maximize shelf life in unopened containers

GC Headspace

Description	Grade	Pack Size	Packaging	Cat. No
Water	GC Headspace	1 L	Amber Glass	W10-1
DMSO, Dimethyl Sulfoxide	GC Headspace	1 L	Amber Glass	D139-1
DMF, N,N-Dimethylformamide	GC Headspace	1 L	Amber Glass	D133-1
DMAC, N,N-Dimethylacetamide	GC Headspace	1 L	Amber Glass	D160-1
NMP, N-Methyl-2-Pyrrolidone	GC Headspace	1 L	Amber Glass	N140-1

Key Features of Fisher Chemical GC Headspace Solvents

Residual Solvent Class	GC Headspace Solvent Suitability Specification	ICH Residual Solvent Concentration Limit
1	1 ppm max.	2 ppm (Benzene)
2	10 ppm max.	50 ppm (Methylbutyl-ketone)
3	50 ppm max.	NA

¹International Conference of Harmonization





Better together: Enhancing your product choice

Premier savings throughout 2016

Buy \$300 of Alfa Aesar or Acros Organics,
Get \$150 of Alfa Aesar or Acros Organics.

Alfa Aesar, now part of Thermo Fisher Scientific, is a leading manufacturer and supplier of chemicals, metals and life science products for research and development. The Alfa Aesar product line consists of more than 46,000 products and the Acros Organics product line is over 16,000 products, making us the number one choice for chemicals, metals and life science products for research and development.

By combining the Alfa Aesar and Acros portfolios, we offer you **more choice, great savings and unrivalled customer service**. To take advantage of this special offer visit www.fishersci.com/AAARewards. For more information about Alfa Aesar products visit www.fishersci.com/AlfaAesar.

Key categories for the combined product lines include:

- High purity inorganics
- Novel organics
- Precious metal compounds and catalysts
- Organometallics
- High purity metal products
- Solvents

Restrictions: Offer expires December 31, 2016. Offer does not apply to POR items. Offer cannot be combined with additional discounts. US and Canada only. Shipping, taxes and duties apply. Purchases must be on a single purchase order. Redemption forms must be received 30 days after purchase and must accompany proof-of purchase. We reserve the right to terminate this promotion at any time. Additional questions regarding this promotion can be sent to info@alfa.com.

Ready-to-Use Titrants



RICCA CHEMICAL COMPANY Ready-to-Use Titrants

RICCA CHEMICAL COMPANY has one of the largest product lines in ready-to-use titrants™. Our product offering covers all types of analyses, such as acidity, alkalinity, oxidation/reduction and complexometric titrations. Our titrants are NIST traceable where available and have low lot-to-lot variability. Ensure stability in your laboratory processes with RICCA titrants.

Description	Size	Mfr. No.	Cat. No.	Each
Hydrochloric Acid, 1 N	10L	3700-2.5	370025	121.44
Iodine, 0.0473 N	4L	3990-1	39901	185.66
Perchloric Acid, 0.1 N in Glacial Acetic Acid	4L	5515-1	55151	208.65
Sodium Hydroxide, 0.5 N	12 x 500mL	R7400000-12X500	74-001-6CS	184.21
Phenylarsine Oxide, 0.00564 N	4L	5750-1	57501	333.40

For more information about Ricca Chemical products, visit www.fishersci.com/RiccaChemical



For Molecular Biology Labs



Decon Products



Molecular Biology Water

- Ultrapure, nuclease-free
- Manufactured and tested to be free of RNase, DNase and Protease
- Purified via deionization, reverse osmosis, UV and ultrafiltration
- Can be used for procedures such as PCR, electrophoresis, sequencing and buffer prep
- Not DEPC-treated
- Not for parenteral use



Molecular Biology Ethanol

- Effectively precipitates DNA and RNA from samples
- 200 proof (100% ethanol)
- Can be used full strength or diluted with nuclease-free water to desired dilution
- Tested to be free of RNase and DNase endonucleases that can degrade DNA and RNA



ELIMINase

- Non-toxic, ready to use
- Instantly removes RNase, DNase and unwanted DNA and radioactive contamination from labware and equipment
- Safe and effective
- Eliminates the need for autoclaving or using DEPC

Contact your Fisher Scientific Sales Representative to learn more.

Description	Size	Mfr. No.	Cat. No.	Price
Molecular Biology Water	1L (6/Cs.)	1032	04-355-139	6/253.00
Molecular Biology Ethanol	0.125 gallon	3916EA	07-678-003	87.87
Molecular Biology Ethanol	24 x 0.125 gallon	3916	07-678-002	24/2081.14
ELIMINase	250mL	1101	04-355-31	39.85
ELIMINase	950mL	1102	04-355-32	60.92

Traceable for Unparalleled Accuracy



Fisher Scientific Traceable pH Buffer Standards
Certified Reference Material (CRM) (COLOR)

- 100% compatible with all instruments and electrodes
- Long-term buffer stability and resistance to temperature changes during pH meter calibration; select values manufactured to IUPAC (International Union of Pure and Applied Chemistry) formulation
- Only Certified Reference Material to meet all test requirements for Federal, State and local agencies
- Proprietary triple-layered packaging (aluminum foil, PET and a low-density polyethylene bag) prevents contamination by permeable gases and affords a two-year shelf life
- Each 16 ounce bottle or six pack single-use 100mL container is supplied with an individual temperature compensation chart, traceability information and Traceable Certificate



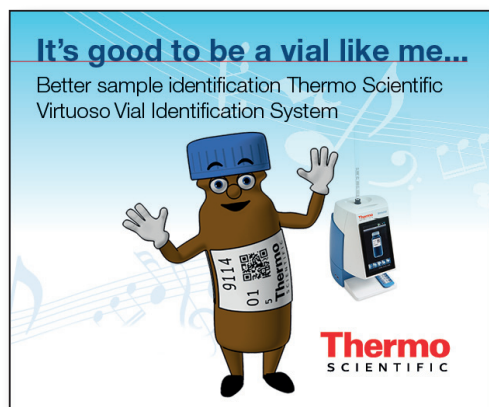
pH Value	Size	Accuracy	Color	Cat. No.	Pack of 6
4.005	16 oz. Bottle	25°C is ±0.010 pH	Red	15-078-280	19.00
7.000	16 oz. Bottle	25°C is ±0.010 pH	Yellow	15-078-281	17.00
10.015	16 oz. Bottle	25°C is ±0.010 pH	Blue	15-078-282	17.00
4.005	100mL One-Shot (6-pack)	25°C is ±0.010 pH	Red	15-078-285	19.00
7.000	100mL One-Shot (6-pack)	25°C is ±0.010 pH	Yellow	15-078-286	19.00
10.015	100mL One-Shot (6-pack)	25°C is ±0.010 pH	Blue	15-078-287	19.00
4.005-10.015	One-Shot Assortment (6-pack)	25°C is ±0.010 pH	Red/Yellow/Blue	15-078-288	20.00

Eliminate Errors from Manual Vial Labeling



Thermo Scientific Virtuoso Vial Identification System

The Thermo Scientific Virtuoso Vial Identification System is an error-free alternative to manual vial labeling that turns a necessary chore into a value-added component within a laboratory workflow. With advanced labeling capabilities, the Virtuoso system ensures accurate vial identification and reliable data, and increases laboratory productivity. Use the system's touch screen and network capabilities to transfer text, graphics, barcodes and logos directly onto your vials.



- Facilitates Your Labeling Requirements — Fully loaded with standard or user-defined templates
- Produces High-Quality Labeling — Resists common laboratory solvents, blurring and smudging
- Increases Productivity — Eliminates error-prone manual vial labeling
- Provides an Advanced Labeling and Information System in One Device — Designed by experienced analytical scientists
- Label a vial in just five seconds
- Improve labeling efficiencies by downloading sample lists

Specification	Virtuoso Vial Identification System
Speed	3-5 seconds
L x W x H (mm)	200 x 140 x 295
Power Supply	Universal 100-240V
Amperage	5A
Voltage	24V DC, Over voltage category II
Certifications/Compliance	Pollution Level 2
Requirements	Recommended Environment: +15°C to +30°C (+59°F to +86°F). Performance may deteriorate if operated outside recommended range. Recommended Storage: -25°C to +45°C (-13°F to +113°F) Short period only. Recommended Relative Humidity: Max. 80% RH up to 31°C; Decreasing linearly to 50% RH at 40°C.

Mfr. No.	Cat. No.	Each
60180-VT100	03-375-310	11,072.25



CONSUMABLES

Cultured Meat Could Help Save the Environment

by Mike Howie

Scientists are becoming high-tech farmers of the future by growing meat in their labs. But this isn't some meat substitute, and it's not genetically modified. It's tissue-engineered food, and it's already been made.

Cultured Meat

In 2013, Mark Post of Maastricht University grew a hamburger patty in a petri dish. It cost \$300,000 for him to do it, and the taste was reportedly lacking, but it's a start. He did it by taking stem cells from a cow, removing the fat cells, and putting the muscle cells in a bioreactor full of nutrients. In time, each muscle cell turned into a trillion new muscle cells, which were placed on a support structure to connect into muscle fibers. The look and feel of the meat was reportedly spot on, so all that's left is to improve the taste and lower the price, which is already in the works.

Maastricht and his team are working on fat tissue now,

which is what gives meat its flavor. As for the price, they're already on track to reduce it to \$11 per burger — a price not unheard of in upscale restaurants — or \$36 per pound. This price will further decrease as the product moves into mass production. If all goes well, lab-grown meat will eventually enter supermarkets as a slightly pricier alternative to traditional meat, then in the following years it will become more common, to the point that it would be identical to traditional meat in both flavor and price.

Beef is just the beginning of all this. There's already a team, led by Amit Gefen of Tel Aviv University in Israel, working on a lab-grown chicken. It's an important progression: chicken accounts for one-third of all the meat eaten in the world. From there the process can move on to different cuts of meat, and even more animals.

Environmental and Health Benefits

Growing meat in labs instead of on farms will drastically cut down on pollution and resource consumption.

According to the Food and Agriculture Organization (FAO), animal protein production in the US requires 28 calories of feed for every calorie of meat produced. On top of that, one pound of beef can require more than 1,500 gallons of water to produce. And then there's the land consumption — 26 percent of the Earth's ice-free surface is used for grazing livestock. Finally, 15 to 18 percent of all global greenhouse gases come from livestock. All of this added together has a hefty impact on our resources and environment.

But, as projected today, mass producing cultured meat doesn't have nearly as big of an environmental impact. It will use far less gas and water and put out far fewer emissions than raising animals, and will use less energy than everything but raising poultry.

It might even be a bit healthier to eat. There wouldn't be large groups of animals in one relatively small space spreading diseases to one another, meaning outbreaks like swine flu and avian flu would be far less likely. Similarly, the meat

wouldn't be exposed to as much dirt and bacteria, which are what lead to food poisoning from things like E.coli and Salmonella. Eventually the production process will be entirely sterile, meaning antibiotics would no longer be necessary.

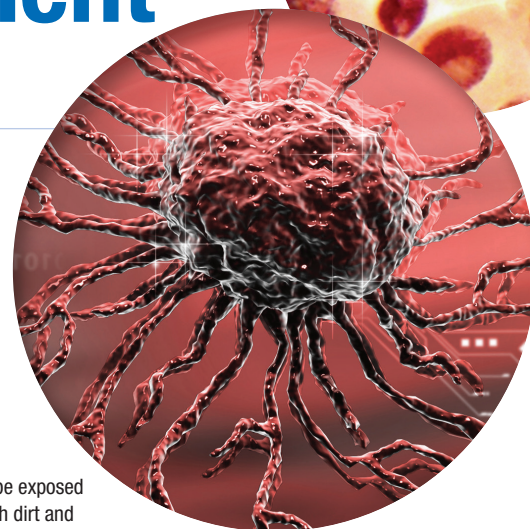
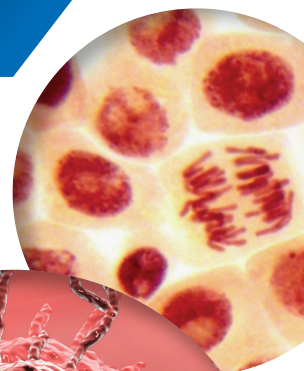
And it's not just that there would be less risk of illness and disease with cultured meat — it could actually be more nutritious. Natural meat contains saturated fatty acids, which are known to contribute to cardiovascular disease and type-2 diabetes. But with cultured meats, scientists can make and add whatever fats they want, such as omega-3 fatty acids, which are a much

healthier option. They could even fortify the meat by adding vitamins to it.

Not So Fast

The science has a lot of promise to it, and the benefits are something many people will agree on. But this is something that's going to take a while to become a common part of our culinary lives. These are just the early days of cultured meat, and it will take time to refine the process and begin production on any kind of large scale.

One day, however, you'll be able to eat a steak that really earns a cruelty-free label.



Safeguarding Your Cells and Your Budget



Thermo Scientific BioLite Filter Units



The sterile filtration of cell culture media is a critical step that prevents contamination and protects the health of your cells. Thermo Scientific BioLite Filter Units offer an economical option that's right for your budget and safe for your cells.

- PES (polyethersulfone) membrane with 0.2µm pore size to eliminate bacterial contamination
- Remove the filter top and use the receiver bottle and sterile bottle cap (included) to store media
- Tapered sides are easy to grip and handle
- Non-pyrogenic and non-cytotoxic
- Sterilized by gamma radiation
- Individually wrapped with easy-to-open recyclable plastic

Buy 1 case and get 2nd case of same product at no charge
 Available through April 30, 2016.
 Redeem online at:
www.fishersci.com/biolitefilterunitpromo.

Learn more about this new product and promotional offer! Go to, www.fishersci.com and search for **BioLite Filters**.

Mfr. No.	Cat. No.	Description	Membrane and Pore Size	Membrane Diameter	Volume Upper and Receiver	Case of 12
130195	12-566-215	BioLite Filter Unit, sterilized and individually bagged with sterile receiver bottle	PES 0.2µm	50mm	150mL	68.40
130196	12-566-216	BioLite Filter Unit, sterilized and individually bagged with sterile receiver bottle	PES 0.2µm	50mm	250mL	88.20
130197	12-566-217	BioLite Filter Unit, sterilized and individually bagged with sterile receiver bottle	PES 0.2µm	75mm	500mL	148.20
130199	12-566-218	BioLite Filter Unit, sterilized and individually bagged with sterile receiver bottle	PES 0.2µm	90mm	1000mL	200.40

The Perfect Solution for Every Application



Duran HPLC Bottles and Accessories



Duran makes bottles that work with your HPLC and pressure/vacuum applications. HPLC bottles and caps form a complete solution; the caps have four ports to allow for multiple feeds and optional sterile pressure equalization. Due to their specialized geometry, the Pressure Plus bottles are well suited for applications where high pressures are a factor. Guaranteed to safely withstand pressures from -1 to 1.5 bar, the bottles are available in three sizes and in clear or amber glass.



Description	Capacity	Color	DIN	Mfr. No.	Cat. No.	Pack of
HPLC Bottle	500mL	Clear	GL 45	1129821	09-841-007	2/202.00
HPLC Bottle	1000mL	Clear	GL 45	1129820	09-841-008	2/211.50
HPLC Screw Cap	4 Ports	N/A	GL45	1129812	09-841-009	2/130.50
Pressure Plus Laboratory Bottle	250mL	Clear	GL 45	1092234	09-841-001	10/176.70
Pressure Plus Laboratory Bottle	500mL	Clear	GL 45	1092235	09-841-002	10/241.00
Pressure Plus Laboratory Bottle	1000mL	Clear	GL 45	218105403	09-841-003	10/279.00
Pressure Plus Laboratory Bottle	250mL	Amber	GL 45	1094367	09-841-004	10/628.00
Pressure Plus Laboratory Bottle	500mL	Amber	GL 45	1094368	09-841-005	10/754.50
Pressure Plus Laboratory Bottle	1000mL	Amber	GL 45	218165409	09-841-006	10/824.50

Sustainable Gloves — From Start to Finish



Kimberly-Clark Green Nitrile Powder-Free Exam Gloves



Looking for gloves that provide dexterity, strength, protection and a way to reduce your solid waste stream? Try the new Kimberly-Clark Spring Green and Kimberly-Clark Forest Green Nitrile Exam Gloves. Comfortable, as well as sustainable, these gloves:

- Enhance grip
- Save space
- Reduce waste

It all adds up to a sustainable solution for a greener, safer, more productive lab.

Forest Green

Size	Mfr. No.	Cat. No.	Pack of 200	Case of 10 Packs
X-Small	43437	19-169-067	39.67	396.70
Small	43438	19-169-068	39.67	396.70
Medium	43439	19-169-069	39.67	396.70
Large	43440	19-169-070	39.67	396.70
X-Large	43441	19-169-071	39.67	396.70

Spring Green

Size	Mfr. No.	Cat. No.	Pack of 200	Case of 10 Packs
X-Small	43443	19-169-072	34.67	346.70
Small	43444	19-169-073	34.67	346.70
Medium	43445	19-169-074	34.67	346.70
Large	43446	19-169-075	34.67	346.70
X-Large	43447	19-169-076	34.67	346.70
2X-Large	43448	19-169-077	34.67	346.70

These gloves may be recycled in the Kimberly-Clark RightCycle program. Learn more at www.fishersci.com/KCRightCycle

Eureka!



Discover Kimble Hydrometers

For measuring the specific gravity of your liquid samples. Hydrometers operate based on Archimedes' principle that an upward buoyant force is exerted on a body when submerged, and it is equal to the weight of the fluid displaced by the object. Hydrometers are easy to use. Simply float the device in the liquid sample and read the graduated scale at the meniscus.

Why KIMBLE?

Safety

- Free of lead and mercury
- Fewer disposal concerns
- Sealed glass tube for maximum chemical compatibility

Traceability

- Serial number printed on graduated scale
- Calibrated using NIST traceable standards

Quality

- Manufactured to the highest quality standard in accordance with ASTM E100, Standard Specification for ASTM Hydrometers
- Tested following the methodology of ASTM E126, Inspection, Calibration and Verification of Hydrometers
- Each hydrometer includes a certificate of conformance

Field	Specific Gravity	Baume	Ethanol	Salt & Brine	API ASTM
Environmental	✓			✓	
Food & Beverage	✓	✓	✓	✓	
Petrochemical	✓				✓
Pharmaceutical	✓	✓			

Description	Mfr. No.	Cat. No.	Each
Ethanol Hydrometer	52150-0200	10-310-332	30.80
Brine Hydrometer	52140-0100	10-310-333	27.50
Narrow Range Baume Hydrometer	52120-0012	10-310-320	31.90
Broad Range Baume Hydrometer	52121-0035	10-310-324	31.90
Baume/SG Dual Scale Hydrometers	52122-0026	10-310-327	31.90
Plain form API ASTM Hydrometer	52130-1931	10-310-335	31.90
Precision Specific Gravity Hydrometer	52110-0708	13-757-035	31.90
Tall-Form High Precision Specific Gravity Hydrometer	52111-0708	13-757-045	33.00
Short Form High Precision Specific Gravity Hydrometer	52112-0809	13-757-059	31.90
Broad Range Specific Gravity Hydrometer	52113-0610	10-310-345	30.80



High-Quality Bottles for a Wide Range of Applications

WHEATON

Wheaton Media Bottles

Products Available

- Clear and amber media bottles
- Available with and without graduations and marking patch
- Additional screw caps available

Features

- Clear borosilicate glass bottle with graduations and marking patch
- Amber borosilicate glass bottle in 125mL size only
- Pre-attached black phenolic screw caps with choice of three liners available
- Heavy walls prevent breakage
- Large opening, with special pour lip to prevent spillage
- Hand grips on 1L bottle to provide easy handling

Special Offer:

Buy 2 cases of Wheaton Media Bottles and get 1 more at no extra charge. For more information, visit www.fishersci.com/wheaton.



Capacity	Color	Size	Cap Material/Cap Liner	Mfr. No.	Cat. No.	Case of
Media Bottles, Graduated						
125mL	Clear	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219715	06-451-281	48/335.10
125mL	Amber	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219855	06-451-287	48/717.90
125mL	Clear	33-430	Rubber Lined Phenolic Cap	219755	06-404A	48/267.10
125mL	Clear	33-430	PTFE Rubber Lined Phenolic Cap	219815	06-404F	48/310.80
125mL	Amber	33-430	PTFE Rubber Lined Phenolic Cap	219875	06-451-289	48/733.30
250mL	Clear	33-430	Without Cap	219437	03-439-67E	48/338.80
500mL	Clear	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219719	06-451-283	24/336.70
500mL	Clear	33-430	Rubber Lined Phenolic Cap	219759	06-404D	24/264.90
500mL	Clear	33-430	PTFE Rubber Lined Phenolic Cap	219819	02-940-20	24/312.50
1000mL	Clear	38-430	Without Cap	W219440	02-912-653	12/142.20
1000mL	Clear	38-430	Polyethylene (LDPE) Lined Phenolic Cap	219720	06-451-284	24/413.00
1000mL	Clear	38-430	Rubber Lined Phenolic Cap	219760	06-404E	24/329.40
1000mL	Clear	38-430	PTFE Rubber Lined Phenolic Cap	219820	06-404-1	24/363.60
Media Bottles, Non-Graduated						
125mL	Clear	33-430	Without Cap	219415	06-407	48/212.80
125mL	Amber	33-430	Without Cap	219885	06-451-290	48/441.70
125mL	Clear	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219495	06-411	48/264.10
125mL	Clear	33-430	Rubber Lined Phenolic Cap	219575	06-414	48/264.10
250mL	Clear	33-430	Without Cap	219417	06-408	48/323.90
250mL	Clear	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219577	06-415	48/362.60
500mL	Clear	33-430	Without Cap	219419	06-409	24/228.10
500mL	Clear	33-430	Polyethylene (LDPE) Lined Phenolic Cap	219499	06-451-278	24/276.80
500mL	Clear	33-430	Rubber Lined Phenolic Cap	219579	22-263-008	24/263.00
1000mL	Clear	38-430	Without Cap	W219420	02-912-651	12/148.50
1000mL	Amber	38-430	Polyethylene (LDPE) Lined Phenolic Cap	W219500	02-912-650	12/183.90
1000mL	Clear	38-430	Rubber Lined Phenolic Cap	W219580	02-912-652	12/187.90
Replacement Black Phenolic Screw Caps for Media Bottles						
NA	Black	33-430	Polyethylene (LDPE) Liner	240080	06-450-7	200/279.10
NA	Black	38-430	Polyethylene (LDPE) Liner	240081	06-450-8	200/333.60
NA	Black	33-430	Rubber Liner	240280	06-450-34	200/290.90
NA	Black	38-430	Rubber Liner	240281	06-450-35	200/364.60
NA	Black	33-430	PTFE Faced Rubber Liner	240480	06-406-33	100/387.20
NA	Black	38-430	PTFE Faced Rubber Liner	240481	22-295-763	100/432.40
NA	Clear	33-430	PTFE Faced Rubber Liner	219757	06-404B	48/334.40
NA	Clear	33-430	PTFE Faced Rubber Liner	219817	06-404G	48/393.10

Anti-Fog Re-Engineered

Honeywell

Honeywell Uvex Safety Eyewear with HydroShield Anti-Fog Lens Coating



HydroShield is an anti-fog coating formulated to provide 60x longer-lasting fog-free performance than our next best coating. Anti-fog performance is based on independent lab test results when compared to median test results of other Uvex anti-fog coated products under EN166 and EN168 testing standards. HydroShield is engineered to keep you fog free longer than ever before.

- Permanently bonded to the lens
- Requires no application and no maintenance
- Available on select Uvex Safety Eyewear products

Description	Mfr. No.	Cat. No.	Each
Uvex Genesis Safety Eyewear	S3200HS	19-018-520	18.99
Uvex Stealth Safety Goggles	S3960HS	19-018-530	27.80
Uvex Protege Safety Eyewear	S4201HS	19-018-529	13.33

Performance. Ergonomics. Comfort.

MICROFLEX

Microflex XCEED Disposable Nitrile Gloves



Ansell

Microflex XCEED disposable nitrile gloves with ERGOFORM technology are designed to reduce hand fatigue, enabling workers to exert less muscle effort and increase productivity. XCEED XC-310 gloves support musculoskeletal health while minimizing the risk factors that lead to workplace injuries.

Size	Length	Mfr. No.	Cat. No.	Pack of 250
X-Small	9.4 in. (24cm)	XC310XS	19-177-520	56.49
Small	9.4 in. (24cm)	XC310S	19-177-521	56.49
Medium	9.4 in. (24cm)	XC310M	19-177-522	56.49
Large	9.4 in. (24cm)	XC310L	19-177-523	56.49
X-Large	9.4 in. (24cm)	XC310XL	19-177-524	56.49

50% Off BMP51 Label Maker

BRADY
LABORATORY

Brady BMP51 Label Maker

For a limited time, get 50% off the select BMP51 Label Makers listed below with the purchase of 6 Brady label cartridges. Visit www.fishersci.com for a complete list of qualifying cartridges.

Create labels on the go with all of the latest features in portable printing:

- Large display screen
- Easy-to-use design apps
- Fast print speed
- Extensive connectivity and networking options
- Built-in Bluetooth technology or optional Wi-Fi card
- Print from your computer or Android phone
- AC power and Li-ion battery pack



For more information visit www.fishersci.com/BMP51Promo.

Description	Mfr. No.	Cat. No.	Each
Includes Product/Driver CD	75447314707	19-140-390	494.00
Includes Labelmark 5 Software, Li-ion Battery Pack	75447314705	19-140-389	658.00
Includes Li-ion Battery Pack	75447314703	19-140-388	506.00

Save Over 90% in Time and Repetitions



Thermo Scientific E1-ClipTip Equalizer Adjustable Tip Spacing Electronic Pipettes

Speed up sample transfers between various labware formats with Thermo Scientific E1-ClipTip Adjustable tip spacing Equalizer Pipettes. The adjustable tip spacing feature allows you to set the distance between pipette tips for different types of labware by simply sliding a handle. This reduces the number of repetitions and time needed to perform many common applications over 90% when compared to use of a manual single channel pipette.

E1-ClipTip Electronic pipettes are an ideal solution for complex protocols with:

- Adjustable tip spacing to transfer samples between different lab formats with one pipette
- Unique ClipTip Interlocking tip interface ensures secure tip attachment and seal on every channel
- Personalized user interface for optimal, consistent operation for every application regardless of the user
- Fully-electronic operation enables a comfortable and safe pipetting experience

Special Offer:

Upgrade your laboratory with NEW ClipTip Technology to receive an F1-ClipTip 20-200 ul manual single channel pipette[†] at no additional charge and:

- Up to \$200 off a NEW E1-ClipTip single channel pipette
- Up to \$400 off a NEW E1-ClipTip multichannel or E1-ClipTip Equalizer multichannel pipette

Visit www.fishersci.com/E1ClipTipUpgrade to learn more.

[†]Manufacturer's suggested list price valued at \$322.



Description	Volume Range	Tip Spacing Range (min./max., mm)	Mfr. No.	Cat. No.	Each
96-Format					
E1-ClipTip Equalizer 6-channel	15 to 1250µL	9.0 to 19.8	4672090	14-387-965	1873.97
E1-ClipTip Equalizer 8-channel	2 to 125µL	9.0 to 14.2	4672050	14-387-966	1991.09
E1-ClipTip Equalizer 8-channel	10 to 300µL	9.0 to 14.2	4672080	14-387-967	1991.09
E1-ClipTip Equalizer 8-channel	15 to 1250µL	9.0 to 14.2	4672100	14-387-968	1991.09
384-Format					
E1-ClipTip Equalizer 384 8-channel	0.5 to 12.5µL	4.5 to 14.2	4672010	14-387-969	1991.09
E1-ClipTip Equalizer 384 8-channel	1 to 30µL	4.5 to 14.2	4672030	14-387-970	1991.09
E1-ClipTip Equalizer 384 8-channel	2 to 125µL	4.5 to 14.2	4672060	14-387-971	1991.09
E1-ClipTip Equalizer 384 12-channel	0.5 to 12.5µL	4.5 to 9.0	4672020	14-387-972	2108.33
E1-ClipTip Equalizer 384 12-channel	1 to 30µL	4.5 to 9.0	4672040	14-387-973	2108.33
E1-ClipTip Equalizer 384 12-channel	2 to 125µL	4.5 to 9.0	4672070	14-387-974	2108.33

Spot the differences.

Use your fine-tuned powers of observation to find the five differences in these two photos.



Smaller flask, larger growth area. Flasks standing on a shelf? Just a clever way to show the smaller, space-saving Thermo Scientific™ Nunc™ TripleFlask™ that offers more than double the growth area of a 225cm² single layer flask.

Safe, fast removal of contaminants. Sterile filtration is a critical step in safeguarding your cells from contamination. Each Thermo Scientific™ Rapid-Flow™ Filter Unit arrives in your lab individually bagged and ready for fast, safe filtering.

Make replacing old-style foam racks the new standard. It's a great move for your lab and the environment. Thermo Scientific™ Nunc™ 15mL and 50mL Conical Tubes are available in recyclable plastic racks; tubes are leak proof and offer a large writing area for easy sample identification. What's more, the wide-mouth design of the 250mL conical tube makes decanting and pellet removal a cinch.

Precision, clarity and flexibility for your cell culture research. Not all pipettes are created equal. Non-dripping tips, clear and bold graduations, color-coded packaging and "shortie" size options set Thermo Scientific Nunc Serological Pipettes apart.

Small filters. Big results. Less waste. Each large beaker contains the same number of syringe filters (100 to be exact). Use Thermo Scientific™ Nalgene™ 25mm Syringe Filters in place of 30mm or 33mm filters in most applications and produce less plastic waste.

Check the differences 1. Nunc TripleFlasks in top photo changed to Nunc Conical Tubes in bottom photo. **2.** Rapid-Flow Filter Unit is empty in top photo and filled in bottom photo. **3.** 25mm Nalgene Syringe Filters in beaker changed to same number of 33mm filters on bottom. **4.** Nunc Conical Tubes in rack in top photo are replaced by Nunc 250mL Conical Tubes in bottom photo. **5.** The bottom photo includes a Thermo Scientific™ Nunc™ Serological Pipette the top photo doesn't.

To find more ways to make a difference in your cell culture research and save, visit fishersci.com/2016ThermoMPP

Thermo
SCIENTIFIC

A Thermo Fisher Scientific Brand

LAB EQUIPMENT

COMBATING FRAUD

A MATTER OF CONNECTING THE DOTS

by Kevin Ritchart

A staggering \$650 billion per year is lost to counterfeiting worldwide, according to the International Chamber of Commerce, but advancements in the realm of invisible ink could help make a dent in that number in the years to come.

A team of Chinese scientists have developed a new form of invisible ink that's based on carbon nitride quantum dots. Information written with this ink is not visible under ambient or ultraviolet (UV) light, but it can be viewed under a fluorescence microplate reader. Anything written with this type of ink can be further encrypted or decrypted by quenching or recovering fluorescence with different types of reagents.

Quantum dots have optoelectronic properties that can be controlled by changing the size of the dots. The Chinese scientists used quantum dots made from graphitic carbon nitride in the development of this new type of invisible ink. Graphitic carbon nitride consists

of ring systems of carbon and nitrogen atoms that are linked in two-dimensional molecular layers. The makeup of the dots is similar to graphite or graphene, which is one of the forms of pure carbon, but it also has the properties of a semiconductor.

The primary function of fluorescing security inks is to ensure products and documents — such as stock certificates, transport documents, currency notes and identity cards — are secure. Counterfeiting of these types of documents can cost companies money in lost profits and/or damage to their reputations. When it comes to fraud involving pharmaceuticals or machine parts, human lives could be endangered.

Let there be light

Counterfeiters have figured out how to imitate UV tags, but copying security ink that's not visible under UV light is much more difficult to do. Researchers also have had success in developing an

inexpensive form of invisible ink that is based on water-soluble quantum dots, which are essentially nanoscopic "heaps" of semiconducting material. Anything written with this new type of ink is unable to be viewed in ambient or UV light because it's nearly transparent in the visible light range and emits fluorescence with a peak in the UV range. The ink is only visible under a microplate reader like those used in biological fluorescence tests.

Writing using the ink can be further encrypted or decrypted using oxalic acid, which makes the ink invisible even under the influence of the microplate reader. Sodium bicarbonate can be used to reverse the process, making the ink visible once again.

Any change to the ink's color or composition also makes the act of counterfeiting more difficult. Without specific knowledge of every ingredient and the precise amounts used, counterfeiters would be unable to replicate

ink. The chemical makeup — as well as various proprietary encryption processes — makes it impossible for even the ink's creators to attempt to re-create or reverse-engineer the end product.

Primary colors

Scientists at Northwestern University formulated the ink by mixing a simple sugar (cyclodextrin) and a competitive binding agent with an active ingredient (a molecule called heterorotaxane) whose fluorescent color changes along the spectrum from red to yellow to green depending on how the components come together. An infinite number of color combinations can be easily defined. The sugar itself is colorless, but it encapsulates some of the other components of the ink selectively. This makes it difficult to predict and difficult for counterfeiters to replicate.

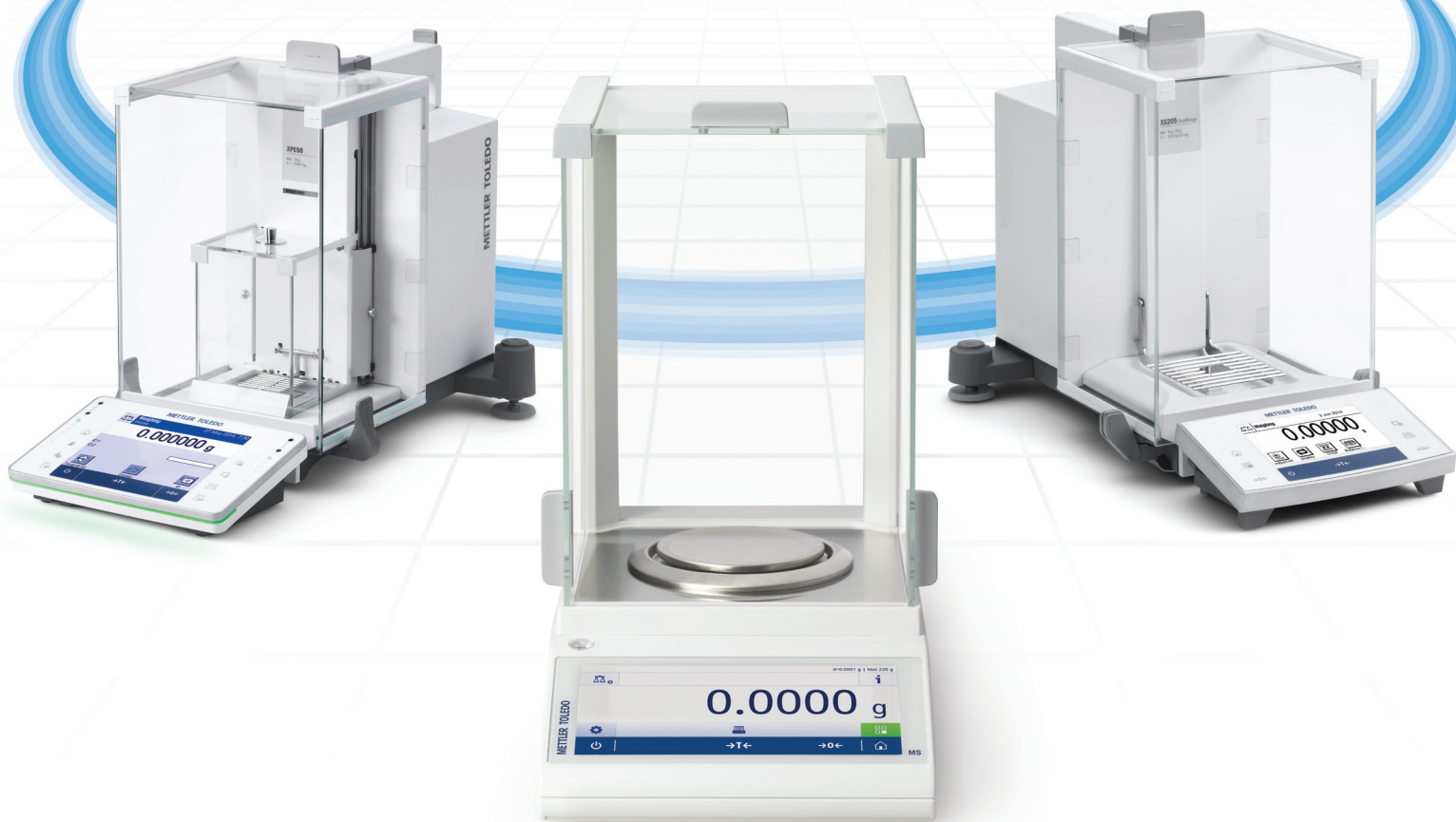
While the ink itself can change colors based on its own composition, the type of paper



the ink is applied to can also impact where the ink falls on the color spectrum. For example, scientists found that an ink that appears orange on standard copy paper appears green when applied to newsprint.

Advancements in the field of invisible ink essentially allows individuals and organizations to create their own unique security codes by manually adjusting the parameters of an ink's key components. Without knowing the parameters of a particular security in the "recipe," it would be virtually impossible for counterfeiters to break the code.





70 Years of Innovation A Balance for Every Need

In 1945, Dr. Erhard Mettler revolutionized weighing by inventing the world's first analytical balance. We haven't looked back since.

Our newest balance, the MS-TS, combines straightforward user guidance with an extra-large 7" touchscreen interface for easy reading and operation. The metal housing provides for a durable and accurate instrument for years to come.

With four major balance families in our portfolio, we ensure that whatever your weighing needs may be, we have you covered.

After 70 years of non-stop innovation, we sure aren't going to stop now.

► www.fishersci.com/mettlertoledo

METTLER TOLEDO

Earn up to
\$900

in Fisher Scientific Back\$
with purchase!

When Performance Counts and Budget Matters



Fisher Scientific accumet AE150 Benchtop pH Meter



The accumet AE150 pH Meter provides the essential functions needed for routine measurements without complicated features and processes, all at a budget-friendly price. Designed with convenience in mind for routine pH measurements in the lab, the meter features user-friendly functionality, data sets stored in non-volatile memory, and a meter-attachable electrode stand. Obtain efficient sample reading and recording with flexible display options; displays both pH and temperature or mV and temperature simultaneously.

The essential functions needed for routine measurements.

- One to five point pH calibration
- Automatic buffer recognition with selection of two pH buffer sets
- pH slope and offset display
- One point mV calibration
- One point ATC temperature probe calibration
- Automatic or manual temperature compensation
- Ready icon to indicate measurement stability
- Electrode condition icon to indicate status
- 100 data set storage with non-volatile memory

Description	Cat. No.	Each
Fisher Scientific accumet AE150 pH benchtop meter and stand	13-636-AE150	345.00
Fisher Scientific accumet AE150 pH benchtop meter education set with 13-620-108B single junction gel pH electrode, 13-620-22 ATC probe and stand	13-636-AE151	425.00
Fisher Scientific accumet AE150 pH benchtop meter bio set with 13-620-299B double junction gel pH electrode, 13-620-22 ATC probe and stand	13-636-AE152	435.00
Fisher Scientific accumet AE150 pH benchtop meter 3-in-1 set with 13-620-AE6 3-in-1 single junction gel pH/ATC electrode and stand	13-636-AE153	450.00
Fisher Scientific accumet AE series 3-in-1 single junction gel pH/ATC electrode	13-620-AE6	95.00
Fisher Scientific accumet AE series single junction gel pH electrode	13-620-108B	125.00
Fisher Scientific accumet AE series double junction gel pH electrode	13-620-299B	85.00
Fisher Scientific accumet AE series ATC temperature probe (120mm length)	13-620-21	45.00
Fisher Scientific accumet AE series ATC temperature probe (90mm length)	13-620-22	45.00

Model	Fisher Scientific accumet AE150 Benchtop Meter
pH	
Range	0.00 to 14.00 pH
Resolution	0.01 pH
Accuracy	±0.01 pH
Calibration Points	1 to 5 points with automatic buffer recognition (ABR)
pH Buffer Calibration Options	USA: pH 1.68, 4.01, 7.00, 10.01, 12.45 NIST: pH 1.68, 4.01, 6.86, 9.18, 12.45
mV	
Range	±1999 mV
Resolution	0.1 mV (±199.9 mV), 1 mV beyond ±200 mV
Accuracy	±0.2 mV (±199.9 mV), ±2 mV beyond ±200 mV
Offset Adjustment	Up to ±150 mV
Temperature	
Range	0.0° to 100.0°C
Resolution	0.1°C
Accuracy	±0.3°C
ATC Temperature Calibration	Offset in 0.1°C increments; Offset range: ±5°C
Temperature Compensation	Automatic or manual (0° to 100°C)
Memory	100 data sets
Hold Function	Yes
Self-Diagnostic Messages	Yes
pH Slope & Offset Display	Yes
Inputs	BNC, 2.5 mm phono plug, reference pin tip, ground
Output	Recorder (±2000 mV)
Power Requirements	AC/DC 9 V adapter (110/220 VAC 50-60 Hz)
Warranty	3 years

The World's First Type C1⁺ BSC



Labconco Purifier Axiom Biosafety Cabinets

The new NSF-listed Purifier Axiom bridges the gap between Type A and Type B by offering an Omni-Flex design, allowing the cabinet to be installed in a recirculating Type A mode when not working with chemical hazards, or in a ducted Type B mode when the application changes to hazardous vapors. If your application changes over time, simply connect or disconnect the Axiom from the exhaust.

- Omni-Flex two operation mode design allows cabinet to work in either Type A or Type B mode
- Chem-Zone shows where to work safely with chemicals when in Type B mode
- MyLogic OS offers self-guided menus with programmable, intuitive, instructive alarm conditions and at-a-glance status updates
- Provides protection for personnel, product and laboratory environment by filtering hazardous particulates and aerosols, such as agents that require biosafety level 1, 2 or 3 containment, with the option of venting away hazardous fumes
- Dual ECM blowers maintain safety for both operator and the materials in work zone
- Convertible sash is programmable for either 8" or 10" sash opening height
- Available as cabinet only or with NSF-approved telescoping base stand and/or accessory package option. Accessory package includes 254nm UV light, service fixture(s) with ball-type valve(s) and NSF-approved Vacu-Pass Cord and Cable Portal
- Supporting base is required if stand option not selected

¹NSF designation is pending definition.



Description	Electrical	Mfr. No.	Cat. No.	Each
4' Axiom with 10" Sash, Stand	115V	304410100	30-441-0100	14,170.00
6' Axiom with 10" Sash, Stand	115V	304610100	30-461-0100	16,815.00
4' Axiom with 10" Sash, Stand and Options	115V	304411100	30-441-1100	14,780.00
6' Axiom with 10" Sash, Stand and Options	115V	304611100	30-461-1100	17,420.00



Ergonomic and ESD for Cleanrooms



Fisherbrand Chairs



Fisherbrand Cleanroom Chairs can assist you in becoming cleanroom compliant. Electro-Static Dissipating (ESD) Chairs help keep you free of static charge.

- Vacuum-formed, urethane foam waterfall seats
- Seat and back covered in conductive ESD Black or ESD Blue Vinyl
- Biomechanically engineered; ergonomic
- Backrest adjusts front to back 1½"
- Lumbar support built into back of chair
- Seat height controlled by a pneumatic lift

Chair Type	Material	Includes	Seating Height	Cat. No.	Each
Cleanroom Chair	Blue Vinyl	With Casters	Desk Height	19-800-100	550.00
Cleanroom Chair	Blue Vinyl	With 6-Way Adjustable Arm Rests	Desk Height	14-360-504	448.00
Cleanroom Chair	Blue Vinyl	With Foot Ring	Bench Height	14-360-519	396.00
ESD Chair	Black Vinyl	With Casters	Desk Height	14-360-618	493.00
ESD Chair	Black Vinyl	With 6-Way Adjustable Arm Rests	Desk Height	143-60-622	652.00
ESD Chair	Black Vinyl	With Foot Ring	Bench Height	19-800-102	880.00

Superior Results with Classic Functionality



Sartorius pHBasic Meters and GoldLINE Electrodes



pHBasic Meters

With exceptional quality and reliable pH results, the pHBasic is the perfect benchtop meter for your basic pH routines. Not only is it simple to use with classic interface design and intuitive icons, it is also faster due to optimized algorithms with harmonized measuring system of sensor with meter. The pHBasic features real-time indicators like ElectCheck and Stability Control, making this the classic go-to meter for any lab.

Features

- Classic no-fuss menus and intuitive operation
- Large LCD displays with simultaneous pH/mV/temp
- Understandable status icons and indicators like Stability Control & ElectCheck
- Easy 1-2-3 point Calibration

Benefits

Get superior results that are not complex

- German quality that saves you time, provides faster reliable results.

Improve your pH workflows

- With features such as ElectCheck and Stability Control, you do not have worry about the condition of your sensor, the integrity of your calibration or second guess when to take your reading. Know all of these at a simple glance.



GoldLINE Electrodes

Up your performance with GoldLINE

The unique three-chamber reference system is more stable with a metal-free iodide | iodine reference system. GoldLINE not only offers unbeatable stability and faster response times but higher accuracy and precision. Accelerated performance is attributed to the advanced patented reference technologies and superior glass and reference materials and construction. The GoldLINE is a superior sensor that gives precise results allowing for independence from sample contamination with minimal temperature influences.

Features

- Patented junction and three-chamber system reduces and eliminates contamination.
- Minimizes damage to sensors elongating the lifetime saving time and money
- GoldLINE electrodes have a lower temperature sensitivity, reducing temperature variants and producing more precise results.
- Speed and response time is quicker due to stability of reference exchange,
- Smart ID sensor versions are a reliable and accurate measurement through automatic electrode recognition between sensor and meter. They provide unique identification for each sensor for traceability.



PY-P28-2S

Model	Includes	Mfr. No.	Cat. No.	Each
pHBasic	pHBasic Meter, Power Supply, 3 Solutions, Arm, no Electrode	pHBasic	14-588-063	745.00
pHBasic — Kit	pHBasic pH Kit, Meter, Power Supply, 3 Solutions, Arm, General-Purpose Electrode - pH/ATC, Plastic Body, Liquid 3M KCl Refillable Ceramic Junction, Bulb Style PY-P10-2S	pHBasic-Kit	14-588-064	825.00
pHBasic — Bio Kit	pHBasic Meter, Power Supply, 3 Solutions, Arm, High-Performance Electrode - pH/ATC, Glass Body, Liquid 3M KCl Refillable, Air Flush Platinum Junction, TRIS Compatible, Break-Resistant Conical Shaped Tip PY-P11-2S	pHBasic-Bio Kit	14-588-065	925.00
pHBasic — Food Kit	pHBasic Meter, Power Supply, 3 Solutions, Arm, Spearhead Electrode, pH, Glass Body, Hold Junction, Polymer Reference Electrolyte, Spear Style PY-P27-2S	pHBasic-Food Kit	14-588-066	994.50

Model	Description	Mfr. No.	Cat. No.	Each
pH/ATC Electrode, Pharma Grade	TRIS impervious, glass body, liquid filled 3M KCL, 3X Junction, Iodine/Iodide reference	PY-P28-2S	14-558-079	595.00
pH/ATC Electrode, Micro 5mm	TRIS impervious, glass body, liquid filled 3M KCl, 3X junction, Iodine/Iodide reference, for low volume samples	PY-P29-2S	14-558-080	605.00
pH/ATC Electrode, Speartip	Glass body, 3X ceramic junction, polymer filled, for solid non-aqueous type samples	PY-P30-2S	14-558-081	625.00
pH/ATC Electrode, Pharma Grade with RFID	RFID, TRIS impervious, glass body, liquid filled 3M KCL, 3X Junction, Iodine/Iodide reference	PY-P31-2S	14-557-897	725.00

Achieve Reliable Results in Perfectly Balanced Comfort



Sartorius Tacta Mechanical Pipettes

Sartorius proudly presents Tacta, the new premium mechanical pipette with superb comfort and reliability. Tacta makes pipetting effortless and safe, while producing accurate and reliable results time after time. At Sartorius, we listened to our customers and combined their views with our extensive experience and state-of-the-art R&D to create the exceptionally balanced Tacta. Tacta is designed to feel great in your hand, and it is easy and comfortable to use. All materials used for Tacta have been carefully selected, and each component is designed to meet the highest standards.



- Reliable results, even over lengthy pipetting periods
- Comfortable to hold due to the ergonomically designed handle
- Low pipetting and tip ejection forces reduce the risk of Work Related Upper Limb Disorder (WRULD)
- The unique Sartorius Optilock system provides flexibility for volume adjustment and locking
- Controlled and smooth tip ejection with the new Sartorius Optiject technology
- Calibration adjustment to provide accurate results for various liquid types
- Easy to clean, with only three parts to disassemble
- Large, clear display



Flexibulk Pipette Tips

A completely new concept for packaging pipette tips, the new bulk package, with its well-organized tip arrangement, saves valuable space in the laboratory. Compared with conventional bulk tip packages, the stackable FlexiBulk boxes take up to 40% less space, and cut packaging waste by nearly 50%, while reducing transportation costs and laboratories' carbon footprint. FlexiBulk provides quick "pick & place" convenience for loading tips into tip racks or attaching directly.

Number of Channels	Volume Range	Mfr. No.	Cat. No.	Each
1	0.1 - 3µL	LH-729010	14-577-793	402.00
1	0.5 - 10µL	LH-729020	14-577-794	402.00
1	2 - 20µL	LH-729030	14-577-795	402.00
1	10 - 100µL	LH-729050	14-577-796	402.00
1	20 - 200µL	LH-729060	14-577-797	402.00
1	100 - 1000µL	LH-729070	14-577-798	402.00
1	500 - 5000µL	LH-729080	14-577-799	402.00
1	1000 - 10000µL	LH-729090	14-577-800	402.00
8	0.5 - 10µL	LH-729120	14-577-801	1010.00
8	5 - 100µL	LH-729130	14-577-802	1010.00
8	30 - 300µL	LH-729140	14-577-803	1010.00
12	0.5 - 10µL	LH-729220	14-577-804	1190.00
12	5 - 100µL	LH-729230	14-577-805	1190.00
12	30 - 300µL	LH-729240	14-577-806	1190.00

Volume	Mfr. No.	Cat. No.	Pack of
200µL	LHB790204	14-577-807	960/71.00
350µL	LHB790354	14-577-808	960/66.00
1000µL	LHB791004	14-577-809	480/34.00
1200µL	LHB791204	14-577-810	480/39.00
1200µL	LHB91204	14-577-811	480/34.00

Strong Enough to Crush, Gentle Enough to Mix



Fisher Scientific Bead Mill Homogenizers

Used for variety of applications that require grinding, lysing, and homogenization of biological samples prior to molecular extraction.

Bead Mill 4 Homogenizer

- Designed for personal use
- Broad performance range gentle mixing to high force homogenization
- Small footprint requires minimal bench space
- Suited for homogenizing up to 4 samples in seconds
- Reproducible extraction of proteins and nucleic acids
- Simultaneously process 4 x 0.5 mL, 4 x 1.5mL, 4 x 2mL or 1 x 7mL samples



Bead Mill 24 Homogenizer

- Simultaneously homogenize up to 24 x 2mL or 0.5mL tubes
- Convenient front-loading tube holder position for ease of use and optimal bead/sample interactions
- Processing range is ideal for soft tissue samples
- No cool-down required between runs (non-stop processing)
- Disposable tubes ensure no threat of cross-contamination
- No sample degradation due to quick processing
- Smaller footprint to maximize bench space
- Run Time: 1 to 99 sec.
- Performance Range: 3m/s to 5m/s in increments of 1m/s
- Number of Cycles: 1-9
- CE compliant



Description	Cat. No.	Each
Bead Mill 4 Homogenizer	15-340-164	1995.00
Bead Mill 24 Homogenizer	15-340-163	6900.00
Mix Tubes for Use With Bead Mill 4 and Bead Mill 24		
Soft Tissue Homogenizing Mix Tubes, 2mL, Pack of 50	15-340-153	150.00
Hard Tissue Grinding Mix Tubes, 2mL, Pack of 50	15-340-151	150.00
Hard Tissue Homogenizing Mix Tubes, 2mL, Pack of 50	15-340-154	150.00
Tough Micro-Organism Lysing Mix Tubes, 2mL, Pack of 50	15-340-152	150.00

A New Generation to Support Your Science



Thermo Scientific Precision Water Baths

For decades, Thermo Scientific Precision water baths have brought outstanding performance and reliability to laboratories worldwide. Now they are setting a new standard in laboratory water baths, with enhanced designs and added features to help simplify workflows and maximize productivity.

With their rugged construction and advanced microprocessor technology, Precision water baths are a smart choice for your smart lab.

- Compact design saves bench space
- Auto-on and auto-off timers enable effortless control
- Icon-based controller interface
- Audible alarm and low-level detection
- Global voltage input
- Adjustable digital over-temperature protection and high-temperature cut-offs



Model	Volume	Mfr. No.	Cat. No.	Each
Precision GP 02	2L (0.5 gal.)	TSGP02	TSGP02	884.00
Precision GP 05	5L (1.3 gal.)	TSGP05	TSGP05	1020.00
Precision GP 10	10L (2.6 gal.)	TSGP10	TSGP10	1196.00
Precision GP 15D	15L (4.0 gal.)	TSGP15D	TSGP15D	2021.00
Precision GP 20	20L (5.3 gal.)	TSGP20	TSGP20	1471.00
Precision GP 28	28L (7.4 gal.)	TSGP28	TSGP28	2073.00
Precision GP 2S	2L (0.5 gal.)	TSGP2S	TSGP2S	884.00

Student-Friendly Spectrophotometer



Thermo Scientific SPECTRONIC 200 Spectrophotometer

The Thermo Scientific SPECTRONIC 200 Visible Spectrophotometer brings new possibilities to student education.

- Trusted live display supports current experiments
- Full spectrum scan mode finds peaks in seconds
- Removable sample compartment for easy clean-up
- Measure in square or test tube cuvettes



Cat. No.	Each
S06240	1480.00

Providing Optimal Conditions to Meet Your Personal Incubation Needs

CORNING

Corning LSE Equipment Line



Shaking Incubator Features:

- Outstanding temperature uniformity
- Large viewing area for undisturbed monitoring of samples
- Broad temperature range
- Multiple accessory options
- Precision control shaking mechanism
- 3 models available: 49L, 71L or Benchtop

Water Bath Features:

- Compact 6 liter design
- Temperature range from ambient +5°C to 99°C
- Stainless steel chamber and cover
- Digital display for precise temperature control



Description	Capacity	External Dimensions	Mfr. No.	Cat. No.	Each
Corning LSE shaking incubator, 49L, 120V	4 x 1L	23 x 19.25 x 22.25"	6750	07-202-151	4352.00
Corning LSE shaking incubator, 71L, 120V	4 x 2L or 6 x 1L	22.6 x 21.4 x 25"	6753	07-202-153	5140.00
Corning LSE Benchtop shaking incubator with platform, 120V	4 x 1L	14.6 x 20.9 x 15.7"	6790	07-202-157	3124.00
Corning LSE Digital water bath, 6L, 120V	6L	14.9 x 11.4 x 9.0"	6783	07-202-155	695.00

For more information about the new Corning constant temperature equipment, please visit www.fishersci.com.

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures.

When It Comes to Multi-Mode Detection, We Have a Solution for Everyone



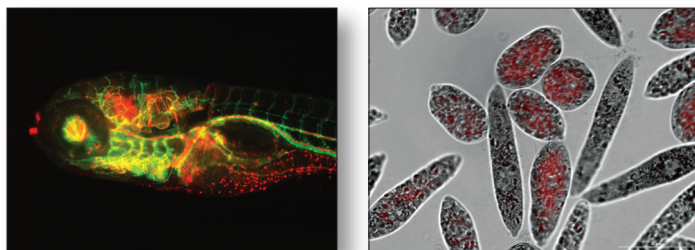
BioTek Multi-Mode Microplate Readers



From the extraordinary Cytation 5 Imaging Reader to the affordable Synergy HTX, we have your application and budget covered — whether it's live cell imaging, laser-based Alpha protocols, low volume nucleic acid quantification or simply ELISA assays.

Cytation 5 Cell Imaging Multi-Mode Reader

A modular, upgradable multi-mode reader that combines automated digital microscopy and conventional microplate detection. Including Live Cell Imaging.



Description	Cat. No.	Each
Fluorescence, Brightfield, Color Brightfield Imaging	BTCYT5V	51,000.00

Synergy Neo2 Multi-Mode Reader

Incorporates BioTek's patented Hybrid Technology, with its independent optical paths for both scanning monochromators and filter-based detection that ensure uncompromised performance.

Description	Cat. No.	Each
UV-Vis Absorbance, Fluorescence (FI, FP, TRF, TR-FRET), Luminescence	BTNE02S	36,000.00

Synergy H1 Multi-Mode Reader

Equipped with both monochromator and filter optical systems to provide flexibility and performance at a very attractive price.

Description	Cat. No.	Each
Fluorescence (FI, FP, TRF, TR-FRET), Luminescence	BTH1F	22,465.00

Synergy HTX Multi-Mode Reader

An entry-level, affordable and upgradable multi-mode microplate reader.

Description	Cat. No.	Each
Luminescence	BTS1L	14,230.00

Call Your Fisher Scientific Sales Representative for a demonstration today!

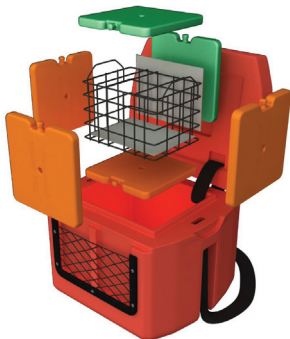
Simple, Reusable, Ergonomic



Sonoco ThermoSafe Via Blood Transporter

Sonoco ThermoSafe has launched a revolutionary new product for the transport and temporary storage of red blood cells and platelets. The Via Blood Transporter was designed as a result of years of end-user research and is the latest addition to the ThermoSafe suite of products that support the transfusion market.

- Ideal for the temporary storage of blood and blood products in the operating room and the transport of medications, medical devices, biological specimens and organs
- ZERO BENCH-TIME refrigerant technology reduces assembly time
- Pre-qualified to maintain the temperature of packed red blood cells between 1-6°C and 1-10°C
- Transporter comes complete with refrigerant panels, a wire basket, affixed assembly instructions, an external document holder and a platelet pouch



Capacity	Duration	Material	Mfr. No.	Cat. No.	Each
Holds 3 to 7 bags (250mL each)	Storage, 1-6°C; 8 hours Transport, 1-10°C: min. 12 hours	EPP (Expanded Polypropylene)	B1R8HU	03-600-120	307.00

Deep Vacuum — Oil-Free!



Welch ChemStar Dry

The ChemStar Dry deep vacuum system handles harsh chemical applications with ease — and no oil mess. Achieve deep vacuum to 50 millitorr with high flow of 150 l/min at 2 torr — perfect for many demanding evaporative processes. Fully chemical resistant, ChemStar Dry can pass through high vapor loads of solvents or corrosive wet chemistries. Save time, equipment and the effort needed to maintain a dry ice/LN2 trap for most applications. End oil-seal pump contamination and messy maintenance with new dry vacuum pump convenience.



12-584-508

- Schlenk line drying manifolds
- Freeze drying
- Vacuum ovens
- Concentrators

Model	Max. Flow Rate	Dimensions (L x W x H)	Mfr. No.	Cat. No.	Each
2070B-01	150L/min at 2 torr	45.7 x 22.8 x 45.7cm (18 x 9 x 18")	2070B-01	12-584-508	7970.00

It Siphons, but in a Good Way



Bel-Art HiFlow Vacuum Aspirator Collection System

- High flow rate; works with 8-channel pipette tips
- Maintains vacuum, even with four empty channels
- Self-contained, portable and quiet
- Quick disconnects for easy bottle removal
- Replaceable filter protects vacuum pump from fluid overflow



Description	Mfr. No.	Cat. No.	Each
Bel-Art HiFlow Vacuum Aspirator Collection System	F199170250	13-717-300	1026.00
Hydrophobic Filter, Pack of 6	F199170255	13-717-301	62.30

Push-Button Security and Application Flexibility



Thermo Scientific Auto-Lock Rotor Exchange

- Secure, trouble-free rotor exchange in as little as 3 seconds
- Quick switch between applications
- Full chamber access for cleaning convenience
- Available on Thermo Scientific superspeed, general purpose and small benchtop centrifuges



Learn more at www.fishersci.com/sorvallcentrifugation

All New: More Safety and Convenience for Dispensing Reagents



BrandTech BRAND Dispensette S Bottletop Dispensers

The newly redesigned BRAND Dispensette S Bottletop Dispensers bring even more safety and convenience to dispensing virtually any laboratory reagent.

- Improved safety valve system, lower operation forces, easier volume selection, faster priming!
- Elimination of seals offers even greater reliability
- Bottle adapters included for most common sizes; optional adapters and accessories for nearly any unpressurized application
- Choose "S" for most applications; "S Organic" for difficult solvents and concentrated acids; and "S Trace Analysis" for high purity reagents
- Dispensette S Trace Analysis Pt-Ir suitable for hydrofluoric acid



Size	Without Recirculation Valve		With Recirculation Valve	
	Cat. No.	Each	Cat. No.	Each
Dispensette S, Analog-adjustable				
0.1-1mL	13689019	425.00	13689012	445.00
0.2-2mL	13689020	425.00	13689013	445.00
0.5-5mL	13689021	425.00	13689014	445.00
1-10mL	13689022	425.00	13689015	445.00
2.5-25mL	13689023	595.00	13689016	615.00
5-50mL	13689024	610.00	13689017	630.00
10-100mL	13689025	950.00	13689018	970.00
Dispensette S, Digital				
0.1-1mL	13689006	485.00	13689000	485.00
0.2-2mL	13689007	485.00	13689001	485.00
0.5-5mL	13689008	485.00	13689002	485.00
1-10mL	13689009	485.00	13689003	485.00
2.5-25mL	13689010	655.00	13689004	655.00
5-50mL	13689011	655.00	13689005	655.00
Dispensette S Organic, Analog-Adjustable				
0.5-5mL	13689047	460.00	13689042	460.00
1-10mL	13689048	460.00	13689043	460.00
2.5-25mL	13689049	645.00	13689044	645.00
5-50mL	13689050	660.00	13689045	660.00
10-100mL	13689051	1035.00	13689046	1035.00
Dispensette S Organic, Digital				
0.5-5mL	13689038	535.00	13689034	535.00
1-10mL	13689039	535.00	13689035	535.00
2.5-25mL	13689040	720.00	13689036	720.00
5-50mL	13689041	735.00	13689037	735.00

Intelligent Evaporation with the Three-Year Warranty You Can Depend On



Heidolph Hei-VAP Series Rotary Evaporators



Hei-VAP Value[†]

- Available in hand lift only
- Affordable model with large dial controls for adjustment of rotation speed
- Hei-VAP Value model has no digital display



Hei-VAP Value Digital[†]

- Available in hand lift only
- Affordable model with large dial controls for adjustment of rotation speed and bath temperature
- Digital display for set and actual heating bath temperature



Hei-VAP Advantage[†]

- Available in hand lift or motor lift configurations
- 3.5" LCD tethered display control panel to adjust rotation speed, heating bath and vapor temperature



Hei-VAP Precision

- Available in hand lift or motor lift configurations
- 4.3" LCD tethered display control panel to adjust rotation speed, heating bath and vapor temperature
- Automatic process timer as a feature in the pre-programmed applications tab
- Built-in Vacuum Controller — Requires Vacuum Valve
- Optional AUTO accurate sensor for auto-easy program functions

[†] Vacuum controller not included, recommend Heidolph manual vacuum Controller

Description	Mfr. No.	Cat. No.	Each
Hei-VAP Value — The Collegiate G1B; 24/40; 115V	036000090	13-876-306	5797.18
Hei-VAP Value — The Collegiate G3B; 24/40; 115V	036000110	13-876-308	6530.23
Hei-VAP Value — The Collegiate G5B; 24/40; 115V	036000130	13-876-310	7138.13
Hei-VAP Value — Digital G1B; 24/40; 115V	036000033	05-404-501	6293.18
Hei-VAP Value — Digital G3B; 24/40; 115V	036000053	05-404-503	6646.39
Hei-VAP Value — Digital G5B; 24/40; 115V	036000073	05-404-505	7439.21
Hei-VAP Advantage HL/G1B, 24/40, 115V	036000250	13-878-412	6427.46
Hei-VAP Advantage HL/G3B, 24/40, 115V	036000270	13-878-414	6892.09
Hei-VAP Advantage HL/G5B, 24/40, 115V	036000310	13-878-418	7801.17
Hei-VAP Advantage ML/G1B, 24/40, 115V	036000450	13-878-432	7076.91
Hei-VAP Advantage ML/G3B, 24/40, 115V	036000470	13-878-434	7629.69
Hei-VAP Advantage ML/G5B, 24/40, 115V	036000510	13-878-438	8165.55
Hei-VAP Precision ML/G3B, 24/40, 115V	036001270	13-878-514	11,071.42
Hei-VAP Precision ML/G5B, 24/40, 115V	036001310	13-878-518	11,399.97
Hei-VAP Precision HL/G3B, 24/40, 115V	036001070	13-876-150	9993.31
Hei-VAP Precision HL/G5B, 24/40, 115V	036001110	13-878-498	11,164.68
Hei-VAP Precision ML/G1B, 24/40, 115V	036001250	13-878-530	9626.05
Hei-VAP Precision HL/G1B, 24/40, 115V	036001050	13-879-602	9095.59

Note: HL = Hand Lift, ML = Motor Lift, G1 = Diagonal Coil, G3 = Vertical Coil, G5 = Dry Ice, B = Coated

All Bench-top Models Feature:

- Heating bath reaches a temperature of 210°C
- Rotation Speed of 20 to 280rpm
- Universal heating bath can accommodate a 5L flask
- Heating bath can be adjusted horizontally up to 200mm
- 2012 patented nonstick vapor tube clamping sleeve
- Non-coated glass available

View the electronic/mobile-friendly version of this ad at www.fishersci.com/labreporter to access additional product literature and enhanced digital content.

Lightweight Pipette with Lockable Volume — Designed to Fit Naturally in Your Hand



Gilson PIPETMAN L Pipettes

The new PIPETMAN L combines the PIPETMAN Classic legendary robustness, a newly designed body and a state-of-the-art locking mechanism guaranteeing that there will be no accidental changes in volume during your pipetting cycles. Based on ergonomics, comfort and traceability research, PIPETMAN L is designed to ensure a perfect fit and reduce tension while holding it for extended periods of time.



- Adjustable tip ejector provides comfort for right- and left-handed users
- 2D identification code for optimum traceability of product information
- Universal tip holder — fits most brands of tips
- Lightweight and extremely low force to reduce RSI

PIPETMAN L is available in single-channel, multichannel and fixed-volume models. Visit www.fishersci.com for a full product listing.

Note: Products not available through Fisher Scientific in Canada.

Model	Volume Range	Color Code	Mfr. No.	Cat. No.	Each
Stainless Steel Tip Ejector					
P2L	0.2 to 2µL	Orange	FA10001M	FA10001MG	374.40
P10L	1 to 10µL	Red	FA10002M	FA10002MG	374.40
P20L	2 to 20µL	Pale Yellow	FA10003M	FA10003MG	372.34
P100L	10 to 100µL	Salmon	FA10004M	FA10004MG	372.34
P200L	20 to 200µL	Yellow	FA10005M	FA10005MG	372.34
P1000L	100 to 1000µL	Blue	FA10006M	FA10006MG	372.34
Plastic Tip Ejector					
P2L	0.2 to 2µL	Orange	FA10001P	FA10001PG	374.40
P10L	1 to 10µL	Red	FA10002P	FA10002PG	374.40
P20L	2 to 20µL	Pale Yellow	FA10003P	FA10003PG	372.34
P100L	10 to 100µL	Salmon	FA10004P	FA10004PG	372.86
P200L	20 to 200µL	Yellow	FA10005P	FA10005PG	372.34
P1000L	100 to 1000µL	Blue	FA10006P	FA10006PG	372.34
Without Tip Ejector					
P5000L	500 to 5000µL	Purple	FA10007	FA10007G	374.40
P10mL	1 to 10mL	Pale Blue	FA10008	FA10008G	374.40

Oil-Free, Corrosion-Resistant Vacuum Pumps



KNF LABOPORT Vacuum Pumps

LABOPORT pumps from KNF Neuberger are maintenance-free and chemically-resistant — the perfect choice for your lab. These compact and lightweight portable pumps are excellent for general lab use and applications employing rotary evaporators and gel dryers, as well as vacuum concentrators, ovens and filtration devices. Whether your application requires distillation of solvents with high, medium or low boiling points, there's a LABOPORT pump for you.

Pumps for Evaporation

- Pumps are virtually indestructible
- Maintenance-free, ball-bearing motors require no lubrication
- Premium, corrosion-resistant pump heads and PTFE diaphragms protect against corrosive gases and vapors
- Patented diaphragms have a smooth, bonded PTFE surface to reduce dead space within head for ultimate deep vacuum performance
- Multiport FPPM valves withstand condensed droplets passing through the pump



Pumps for Filtration

This inexpensive, chemical-resistant line of diaphragm vacuum pumps is designed to provide a clean, economical vacuum source for a variety of filtration jobs including bottle-top and manifold filtration, as well as vacuum degassing and desiccation.

Recommended for Distillation of	Flowrate	End Vacuum	Cat. No.	Each
High Boiling Point Solvents, Reflux Reactions	34L/min.	1.5 torr	13-878-35	5292.34
High/Medium Boiling Point Solvents, Reflux Reactions	34L/min.	6 torr	13-878-29	3496.66
Medium/Low Boiling Point Solvents	20L/min.	6 torr	13-878-27	2596.01
Low Boiling Point Solvents	34L/min.	75 torr	13-878-44	2521.48

Flowrate	End Vacuum	Pressure	Cat. No.	Each
5.5L/min.	120 torr (25.2" Hg)	35psi	13-878-38	685.60
13L/min.	75 torr (27" Hg)	15psi	13-880-34	788.16
16L/min.	15 torr (29.3" Hg)	7.4psi	13-880-30	1249.17
30L/min.	120 torr (25.2" Hg)	7.4psi	13-880-32	1249.17



Introducing the All-New OHAUS Adventurer!

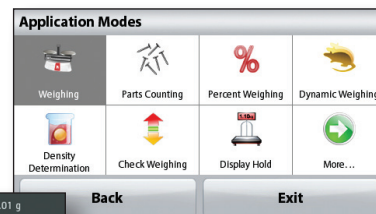
OHAUS Adventurer Analytical and Precision Balances

The Most Complete Balance in its Class!

Striking the ideal balance between inventive features and functional, uncomplicated weighing capabilities, the OHAUS Adventurer incorporates all of the applications necessary for routine weighing and measurement activities. With a color touchscreen, GLP/GMP compliance capabilities, two USB ports, ingenious draftshield and much more, Adventurer is the most complete balance in its class.



- Superior weighing performance with amazing accuracy
- Fast stabilization time for prompt results
- Large 4.3" color touchscreen
- Versatile connectivity with standard RS232 and two USB ports
- New space-saving draftshield design
- Nine weighing applications
- Large weighing surface ideal for any sample size



Model	Readability	Capacity	Mfr. No.	Cat. No.	Each
Analytical Balances					
AX124	0.0001g	120g	30100600	01-920-251	3000.00
AX224	0.0001g	220g	30100602	01-920-253	3300.00
AX324	0.0001g	320g	30100604	01-920-254	3600.00
Precision Balances					
AX223	0.001g	220g	30100605	01-920-275	1700.00
AX423	0.001g	420g	30100607	01-920-277	2000.00
AX523	0.001g	520g	30100609	01-920-279	2300.00
AX1502	0.01g	1520g	30100611	01-920-268	1700.00
AX2202	0.01g	2202g	30100613	01-920-270	1900.00
AX4202	0.01g	4200g	30100615	01-920-272	2300.00
AX5202	0.01g	5200g	30100617	01-920-273	2600.00
AX4201	0.1g	4200g	30122634	01-920-257	1450.00
AX8201	0.1g	8200g	30100618	01-920-259	1550.00

NTEP Legal for Trade and External Calibration Models available. Please visit www.fishersci.com for more information and a full product listing.

FISHER SCIENTIFIC

FOUR NEW ELEMENTS COMPLETE SEVENTH ROW OF PERIODIC TABLE

by Mike Howie

81 Tl 204.38 Thallium	82 Pb 207.2 Lead	83 Bi 208.98 Bismuth	84 Po 209 Polonium	85 At 210 Astatine	
113 Uut Ununtrium	114 Uuq 289 Ununquadium	115 Uup Ununpentium	116 Uuh Ununhexium	117 Uus Ununseptium	118 Uuo Ununoctium
67 Ho 164.93 Holmium	68 Er 1.0079 Erbium	69 Tm 168.93 Thulium	70 Yb 173.04 Ytterbium		
99 Es 252 Einsteinium	100 Fm 257 Fermium	101 Md 258 Mendelevium	102 No 259 Nobelium		

Four new elements have been added to the periodic table,

finally completing the seventh row. The last time anything was added to the table was 2011, when elements 114 and 116 were discovered.

All four of the new elements are manmade and superheavy. They were synthesized by colliding nuclei into each other and tracking their decay. The atomic numbers for the new elements are 113, 115, 117 and 118. They don't have names yet, however, so they are going by the working titles ununtrium (Uut), ununpentium (Uup), ununseptium (Uus) and ununoctium (Uuo), respectively. The discoverers of the elements will create permanent names and symbols for the elements in the coming months.

The discoveries were made by scientists spread across the globe. Element 113 was discovered by scientists led by Kosuke Morita at Riken in Wako, Japan. It's a proud moment for Morita and his team as this is the first time an element was discovered and will be named in Asia. The other three elements, 115, 117 and 118, were discovered by scientists from the Joint Institute for Nuclear Research working in Dubna, Russia, the Lawrence Livermore National Laboratory in Livermore, California, and the Oak Ridge National Laboratory in Oak Ridge, Tennessee, respectively.

The fact that all four of these elements are superheavy means they decay rapidly, which made them difficult to find. However, they continue the trend of newer superheavy elements with slightly longer lifespans, which gives scientists hope that they may find the “island of stability,” a group of stable superheavy elements, which could possibly be somewhere around elements 120 or 126.

All four elements are radioactive, and not much else is known about them. Both elements 113 and 115 are classified as metals and are expected to be solid at room temperature. Element 117, a member of the halogen group, is expected to be solid, but its classification is unknown. Element 118, a member of the noble gas group, is expected to be a gas and is classified as a non-metal.

Says Who?

Just because a scientist or group of scientists say they've discovered a new element doesn't mean it's true.

That's where the International Union of Pure and Applied Chemistry, or IUPAC for short, steps in. IUPAC is an international, non-governmental objective body that oversees the periodic table. They're the ones who determine the validity that a new element has been discovered and decide who has the right to name the new element. They occasionally mediate disputes as to who discovered a new element, which happened with element 113 when both RIKEN and the Russian-American team that

discovered elements 115, 117 and 118 both claimed discovery.

The new-element process, as far as IUPAC is concerned, is fairly simple. After scientists have done the work of smashing different elements into each other, they publish their claim in scientific literature. IUPAC then analyzes the claim, determining if the experiments were valid and if it meets the criteria for a new element as well as who deserves credit for the discovery. They then publish their analysis in their official journal, *Pure and Applied Chemistry*. At this point the element gets a provisional name, which is based on its atomic number, and a square on the periodic table. The credited discoverers then submit a name -- which must relate to mythological concepts, minerals, places, countries, properties or scientists -- and symbol for the new element to IUPAC. The proposed name and symbol are then publicly reviewed by neutral scientists before IUPAC makes its final decision. Finally, IUPAC publishes the name and symbol in their journal and adds it to the periodic table.

What's the Point?

These elements, at this point in time, exist in the most generous of terms. Each lives for far less than a second before it decays into lighter elements. For most of us, that's so little time it's useless. But it is enough time for scientists to learn some things.

Just because these elements hardly exist on earth doesn't mean they can't have easier lives somewhere else in

the universe. It's believed that heavy atoms like those found in these four new elements are created during star death, so recreating them here can give us insight into that process. And the fact that they're radioactive and decay so quickly could help us learn more about the general process of radioactive decay, something that would be immensely helpful in learning how to deal with radioactive waste and about the potential future of our energy supply.

Even if these and other superheavy elements aren't useful on our planet, they help us learn more about our universe. Creating and studying them is, at the very worst, knowledge for the sake of knowledge, which is one of the many goals of science.

What's Next?

The obvious answer to this is, of course, the eighth period of the periodic table, starting with elements 119 and 120. But finding these elements isn't as simple as moving from one project to the next.

The heavier these elements get the harder they are to synthesize. To understand why that is, you need to know a little about the synthesizing process itself. Scientists use a heavy element as a target and then slam lighter elements into it at high speeds. The elements chosen for the tests depend on the number of protons they have. The idea behind this is that when the elements collide they will merge into a single element with the sum of those protons. For example, iron, which has 26

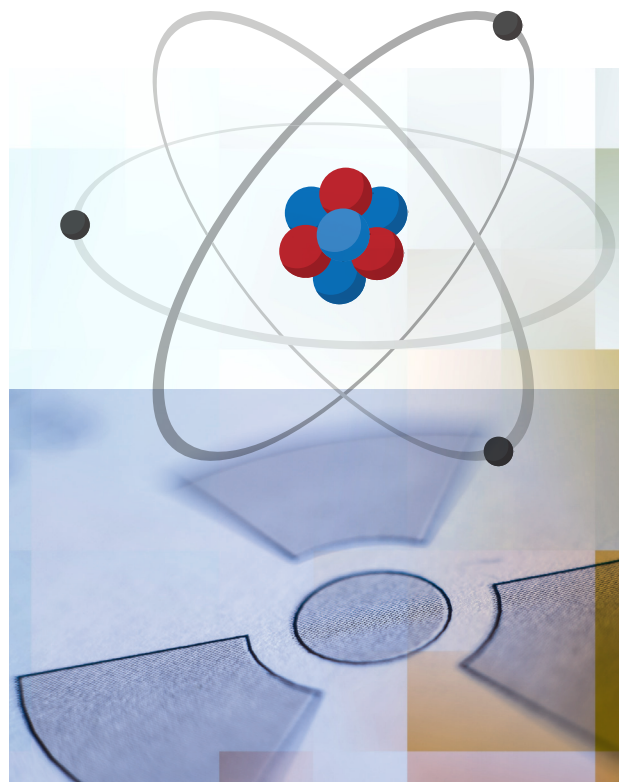
protons, would be collided into plutonium, which has 94 protons, in an attempt to make element 120 (atomic numbers are based on the number of protons in an element).

This method worked well in the past, but it's unlikely that it will continue to work well with heavier elements. To create a heavier element more projectiles would need to be collided into the target, but that would burn the target and could also burn the detector. It's true that a larger target could be used, but that's difficult and takes time. It took two years to make the target that was used to produce element 117.

So to keep discovering more elements, scientists need more advanced equipment, which is a long process in itself. Progress will happen -- once upon a time nobody thought anybody would get this far -- but it will take time.

Beyond the limits of technology, there are some physical limits on how many elements there could possibly be. As atomic nuclei get larger, the electrons that circle them have to move faster. That means at some point electrons will have to move faster than the speed of light for certain elements to exist. But it's physically impossible for anything to go faster than the speed of light, so there must be some limit to how big a nucleus can be, and hence a limit to how many elements there can be. Physicist Richard Feynman predicted that element 137 would be the limit, but other calculations predict that it will be around element 170.

Those potential limits leave us with a lot of elements to discover, and a lot more work for the scientific community.



FISHER SCIENTIFIC

PERIODIC TABLE OF THE ELEMENTS

1 H 1.0079 Hydrogen																	18 He 4.0026 Helium
3 Li 6.941 Lithium	4 Be 9.0122 Beryllium											5 B 10.811 Boron	6 C 12.011 Carbon	7 N 14.007 Nitrogen	8 O 15.999 Oxygen	9 F 18.998 Fluorine	10 Ne 20.180 Neon
11 Na 22.990 Sodium	12 Mg 24.305 Magnesium											13 Al 26.982 Aluminium	14 Si 28.086 Silicon	15 P 30.974 Phosphorus	16 S 32.065 Sulfur	17 Cl 35.453 Chlorine	18 Ar 39.948 Argon
19 K 39.098 Potassium	20 Ca 40.078 Calcium	21 Sc 44.956 Scandium	22 Ti 47.867 Titanium	23 V 50.942 Vanadium	24 Cr 51.996 Chromium	25 Mn 54.938 Manganese	26 Fe 55.845 Iron	27 Co 58.933 Cobalt	28 Ni 58.693 Nickel	29 Cu 63.546 Copper	30 Zn 65.39 Zinc	31 Ga 69.723 Gallium	32 Ge 72.63 Germanium	33 As 74.922 Arsenic	34 Se 78.96 Selenium	35 Br 79.904 Bromine	36 Kr 83.80 Krypton
37 Rb 85.468 Rubidium	38 Sr 87.62 Strontium	39 Y 88.906 Yttrium	40 Zr 91.224 Zirconium	41 Nb 92.906 Niobium	42 Mo 95.94 Molybdenum	43 Tc 98 Technetium	44 Ru 101.07 Ruthenium	45 Rh 102.91 Rhodium	46 Pd 106.42 Palladium	47 Ag 107.87 Silver	48 Cd 112.41 Cadmium	49 In 114.82 Indium	50 Sn 118.71 Tin	51 Sb 121.76 Antimony	52 Te 127.60 Tellurium	53 I 126.90 Iodine	54 Xe 131.29 Xenon
55 Sc 132.91 Caesium	56 Ba 137.33 Barium	57-71 La-Lu	72 Hf 178.49 Hafnium	73 Ta 180.95 Tantalum	74 W 183.84 Tungsten	75 Re 186.21 Rhenium	76 Os 190.23 Osmium	77 Ir 192.22 Iridium	78 Pt 195.08 Platinum	79 Au 196.97 Gold	80 Hg 200.59 Mercury	81 Tl 204.38 Thallium	82 Pb 207.2 Lead	83 Bi 208.98 Bismuth	84 Po 209 Polonium	85 At 210 Astatine	86 Rn 222 Radon
87 Fr 223 Francium	88 Ra 226 Radium	89-103 Ac-Lr	104 Rf 261 Rutherfordium	105 Db 262 Dubnium	106 Sg 266 Seaborgium	107 Bh 264 Bohrium	108 Hs 269 Hassium	109 Mt 268 Meitnerium	110 Uun 271 Ununnilium	111 Uuu 272 Unununium	112 Uub 277 Ununbium	113 Uut 278 Ununtrium	114 Uuq 289 Ununquadium	115 Uup 288 Ununpentium	116 Uuh 289 Ununhexium	117 Uus 289 Ununseptium	118 Uuo 289 Ununoctium
57 La 138.91 Lanthanide	58 Ce 140.12 Cerium	59 Pr 140.91 Praseodymium	60 Nd 144.24 Neodymium	61 Pm 145 Promethium	62 Sm 150.36 Samarium	63 Eu 151.96 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.93 Terbium	66 Dy 162.5 Dysprosium	67 Ho 164.93 Holmium	68 Er 167.26 Erbium	69 Tm 168.93 Thulium	70 Yb 173.04 Ytterbium	71 Lu 174.96 Lutetium			
89 Ac 227 Actinide	90 Th 232.04 Thorium	91 Pa 231.04 Protactinium	92 U 238.03 Uranium	93 Np 237 Neptunium	94 Pu 244 Plutonium	95 Am 243 Americium	96 Cm 247 Curium	97 Bk 247 Berkelium	98 Cf 251 Californium	99 Es 252 Einsteinium	100 Fm 257 Fermium	101 Md 258 Mendelevium	102 No 259 Nobelium	103 Lr 260 Lawrencium			



AC600 Series Chemical Workstations

Standard Features:

- Microprocessor control with audible and visible alarms — filter saturation and face velocity
- 360° visibility
- Ideal for low-volume chemical applications

Ductless Chemical Workstation	Cat. No.	Each
AC632A 32" Workstation	36-100-4271	3450.00
AC632TA 32" Workstation, Tall Version	36-100-4272	3850.00
AC648A 48" Workstation	36-100-4274	4500.00
AC648TA 48" Workstation, Tall Version	36-100-4275	4850.00



Polypropylene Ductless Fume Hoods

Standard Features:

- Microprocessor control with audible and visible alarms — filter saturation and face velocity
- Bonded carbon filters — no dust
- Excellent chemical resistance

Polypropylene Ductless Fume Hood	Cat. No.	Each
AC3000 36" Ductless Fume Hood*	36-101-6457	6200.00
AC4000 48" Ductless Fume Hood*	36-101-6458	6900.00
AC5000 60" Ductless Fume Hood*	36-101-8784	8000.00
AC6000 72" Ductless Fume Hood*	36-100-4284	8900.00

* Filters sold separately, application worksheet required



PowderSafe Balance Enclosures

Standard Features:

- Horizontal HEPA-filtered airflow pattern
- HEPASafe filtration system for simple and easy maintenance
- Thermally fused design for vibration reduction and balance stability

PowderSafe Balance Enclosure	Cat. No.	Each
AC730C 32" Balance Enclosure	36-100-4292	6500.00
AC740C 48" Balance Enclosure	36-100-4293	7500.00

PROTEIN SHOWS PROMISE IN TREATMENT OF SPINAL CORD INJURIES

by Kevin Ritchart

It's estimated that more than a quarter of a million people in the U.S. are living with spinal cord injuries, with 12,000 Americans suffering new injuries each year. While improved emergency care, more potent antibiotics and aggressive rehabilitation regimens can serve to minimize nervous system damage and restore function to some degree, those who have not experienced positive results from these modes of treatment are still in search of treatments that will aid them in their quest to restore functional movement.

Evolving surgical techniques, developments in spinal nerve regeneration, cell replacement, neuroprotection and neurorehabilitation — along with new research — provide hope that the future of spinal cord injury treatment will continue to advance and improve the lives of those living with these injuries.

Spinal cord injuries — the treatment of which costs in excess of \$3 billion per year in the U.S. — often result in the impairment of locomotor,

sensory and autonomic functions. Those individuals who suffer from acute spinal cord injuries experience serious functional deficits — including paraplegia and tetraplegia. This is caused by the degeneration of the spinal pathways that carry nerve signals from the brain to the extremities, which leads to the loss of both mobility and sensitivity to the areas below the site of the injury.

IL-37 provides hope

Researchers at the University of Barcelona (UAB) have identified a therapeutic target for people with severe spinal cord injuries based on their recent work with mice. The use of a protein called IL-37 that prevents the loss of myelin — the sheath that insulates the nerve fibers that allow signals to be transmitted from the brain to the rest of the body — has shown that it can increase mobility in mice following an injury.

Dr. Ruben Lopez Vales of UAB's Department of Cell Biology, Physiology and Immunology, which is part of the school's Institute of Neuroscience and the Centre for Networked Biomedical in Neurodegenerative Diseases (CIBERNED), coordinated the team of scientists to perform the study, which yielded some potentially encouraging results. The outcomes of the study were published in the online version of the Proceedings of the National Academy of Sciences (PNAS).

IL-37 has shown the ability to suppress inflammation following a spinal cord injury and minimize both the degeneration of spinal tissue and functional disabilities. IL-37 was initially identified more than 15 years ago, but its function has been difficult to prove as it's not synthesized in mice. By using a genetically modified mouse with the ability to synthesize IL-37, researchers were able to prove that it increases mobility if administered immediately after an injury.

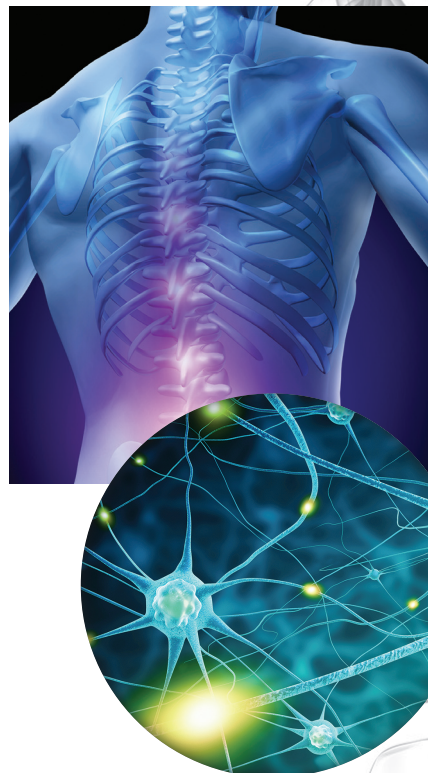
Limiting myelin loss

Lysophosphatidic acid, a lipid that acts as a signaling molecule between cells that make up an organism, plays a significant role in the degenerative processes associated with spinal cord injuries. Researchers have observed that increases in lysophosphatidic acid correlate with the loss of myelin. A biological receptor known as LPA1 has been identified as allowing the lipid to multiply the degenerative effects of spinal cord injuries.

In experiments using mice, the use of a drug that prevents the interaction between lysophosphatidic acid and LPA1 led to a marked reduction in myelin loss and improved locomotor performance following an injury. While some mice still displayed inconsistent or uncoordinated locomotion, 87 percent of the mice responded to the administration of the drug

with what was deemed to be normal, coordinated locomotion.

In addition to its potential application in instances of severe spinal cord injuries, IL-37 also may prove useful in the treatment of neurodegenerative illnesses, as inflammation plays a role in these conditions as well. Clinical trials using anti-inflammatory drugs like methylprednisolone have proven ineffective, so IL-37 could bridge that gap in the near future.



Sample Preparation for Routine and Resistant Samples



MP Biomedicals FastPrep Systems

Sample Disruption for Extraction of DNA, RNA & Protein in 40 seconds or less! Guaranteed results with FastPrep Lysing Matrix Tubes and complete Purification Kits.

Lyse Efficiently:

- Tissue or cell culture
- Yeast, fungi, spores
- Bone, brain, tumors, skin
- Seeds, roots, leaves
- Bacteria gram + or -
- Feces, soil, sediment



MP Biomedicals — It's What's Inside That Counts!

Description	Mfr. No.	Cat. No.	Each
FastPrep-24 5G Homogenizer	116005500	11-600-5500	10,989.00
FastPrep-96 Homogenizer	116010500	MP116010500	16,000.00
Super FastPrep-2 Homogenizer	116012500	MP116012500	2691.00

CRISPR/Cas9 Transfection

TransIT-X2 Dynamic Delivery System†

Now you can use the same transfection reagent for your knockout, knockdown or expression experiments. The *TransIT-X2* Dynamic Delivery System takes CRISPR genome editing a step further with an advanced polymeric technology that efficiently delivers plasmid DNA, small RNAs, such as siRNA and CRISPR guide RNA, or RNP complexes.

The *TransIT-X2* Dynamic Delivery System delivers CRISPR/Cas9 components in multiple formats:

- DNA: deliver plasmid DNA expressing Cas9 or guide RNA
- RNA: deliver single gRNA or crRNA:tracrRNA oligos
- Protein: deliver Cas9/gRNA ribonucleoprotein (RNP) complexes

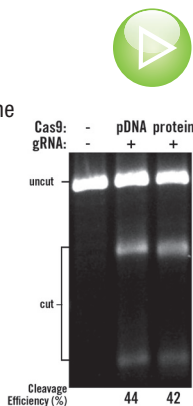


Figure Legend: *TransIT-X2* was used to deliver Cas9 pDNA/gRNA or Cas9 protein/gRNA (RNP complex) into 293T/17 cells. A T7E1 mismatch detection assay was used to measure indel formation 48 hours post-transfection.

Quantity	Mfr. No.	Cat. No.	Each
0.3mL	MIR6003	MIR6003	177.00
0.75mL	MIR6004	MIR6004	446.50
1.5mL	MIR6000	MIR6000	741.50
5 x 1.5mL	MIR6005	MIR6005	3140.00
10 x 1.5mL	MIR6006	MIR6006	5750.00

† Products are only available through Fisher Scientific in the U.S.

Unique Three-Paddle Design



Fisher Scientific Paddle Blender

For homogenizing and mixing samples for microbiological testing. Use for food safety testing and macro sample preparation.

- Designed to be used with standard and filter type food sample preparation bags
- Easy-to-use digital control system with an auto-run feature
- Large process viewing window
- Easy-to-clean design with drip tray and removable paddles



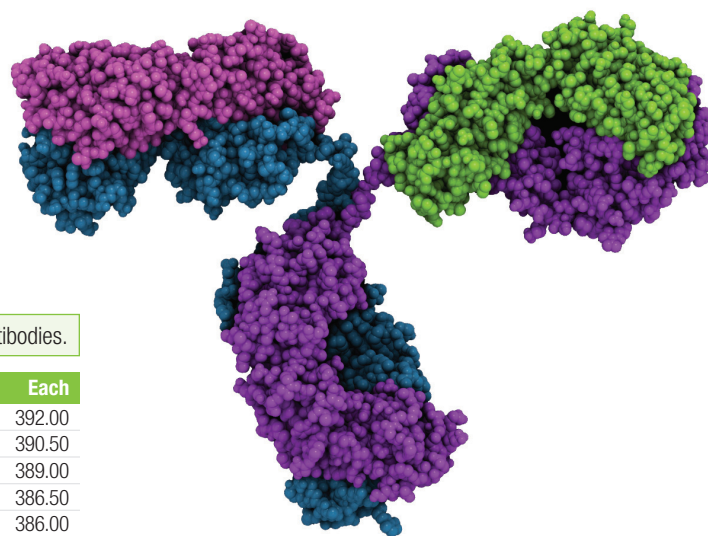
Power	Cat. No.	Each
115V/1.25 A	11-452-120	5762.00
230V/0.63 A	11-452-121	5867.00

Best-In-Class Antibodies for Leading-Edge Research

Abnova Monoclonal Antibodies

33,000+ Monoclonal Antibodies, Endorsed by 38,000+ Publications

Abnova provides an extensive collection of monoclonal antibodies applicable to diverse research areas ranging from epigenetic, signal transductions to embryonic development studies. Manufactured under meticulous quality control, these highly-specific antibodies are designed to be exercised in multifarious applications, including WB, IHC, IP, IF, ELISA, Flow cytometry and more. With exceptional sensitivity and reactivity, researchers tackling different scientific problems can not only acquire Abnova's best-in-class antibodies suitable for their research, but also have assurance on efficiency and consistency.



For more information, visit www.fishersci.com and search for keywords Abnova Antibodies.

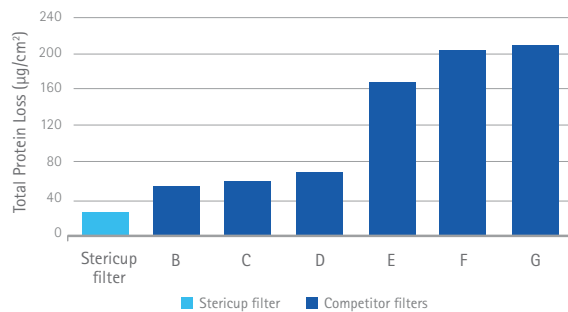
Product Name	Mfr. No.	Cat. No.	Each
EIF2C2 monoclonal antibody (M01), clone 2E12-1C9	H00027161-M01	89-014-299	392.00
TARDBP monoclonal antibody (M01), clone 2E2-D3	H00023435-M01	89-014-287	390.50
SQSTM1 monoclonal antibody (M01), clone 2C11	H00008878-M01	89-015-843	389.00
YAP1 monoclonal antibody (M01), clone 2F12	H00010413-M01	89-019-186	386.50
SALL4 monoclonal antibody (M03), clone 6E3	H00057167-M03	89-014-325	386.00
MFN2 monoclonal antibody (M01), clone 6A8	H00009927-M01	89-002-764	380.00
KRAS monoclonal antibody (M01), clone 3B10-2F2	H00003845-M01	89-014-138	390.00
LYST monoclonal antibody (M07), clone 3H1	H00001130-M07	89-021-081	337.00
TOMM20 monoclonal antibody (M01), clone 4F3	H00009804-M01	89-014-244	337.00
CDH17 monoclonal antibody (M01), clone 1H3	H00001015-M01	89-014-073	380.00

There's only one Stericup[®] filter. Don't be fooled.



CAUTION:

- Sterile filters are posing as high-quality Stericup filters, but are rather thinly disguised.
- These filters may exhibit clogging, loss of volume and unwanted binding of serum proteins and other additives.
- Victims report anxiety due to potential damage to cell health.



Protein Binding Performance

Don't be fooled – EMD Millipore's history of membrane technology and filter device engineering is unmatched.

See the speed for yourself!

Watch the "Stericup Filter Race" and see the superior performance against the competition.



FISHERBRAND FITS EVERYWHERE IN THE LAB

The New Lab Essentials Catalog



See our full offering of high-quality and reliable equipment, instruments and supplies that fit everywhere in your lab.

Order your catalog at
www.fishersci.com/orderlabessentials.

Note: Orders can only be placed to addresses in the U.S.



Simply Stunning

EVOS Imaging Systems

invitrogen

invitrogen
by Thermo Fisher Scientific



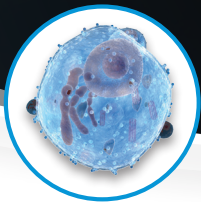
Smart systems. Easy cell imaging. Fast results.

Designed to eliminate the complexities of microscopy without compromising performance, the EVOS line of cell imaging systems makes cell imaging accessible to almost every lab and budget. Find out which EVOS Imaging System is right for you.

For more information and to find out which EVOS is right for you, please visit: www.fishersci.com/evos.

Description	Mfr. No.	Cat. No.	Each
EVOS FL Auto Imaging System	AMAFD1000	12-463-377	56,696.77
EVOS Onstage Incubator	AMC1000	12-563-550	14,875.00
EVOS FL Imaging System	AMF4300	12-563-460	21,544.35
EVOS FLoid Cell Imaging Station	4471136	10-213-412	14,310.48
EVOS XL Imaging System	AME3300	12-563-450	11,783.87
EVOS XL Core Imaging System	AMEX1000	12-562-751	5325.81

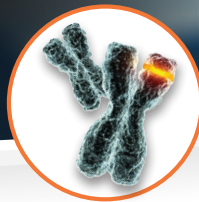
Unrivaled LIFE SCIENCE S O L U T I O N S



CELL CULTURE
AND ANALYSIS



MICROBIOLOGY



MOLECULAR
BIOLOGY



PROTEIN
BIOLOGY

Fisher Scientific's Life Science portfolio provides best-in-class workflow solutions from market-leading brands and a pipeline of new and innovative products. Working with the most trusted names in the industry, we can provide unparalleled access and technical support for the latest product innovations to accelerate your research.

www.fishersci.com/lifescience

www.fishersci.ca/lifescience



How Green Is Your Lab?



Fisher Scientific is committed to helping its customers and suppliers protect and preserve the environment. By working together, we can practice sustainability and work toward the common goal of reducing our carbon footprint.

- 1 **Tell us how you reduce, reuse and recycle**, and you could be featured in the next issue of LabReporter.
- 2 **Send us photos, videos or commentaries** that best illustrate the products and practices you use in your lab to promote a greener workplace.
- 3 Submit your entries to labreporter@thermofisher.com by May 31, 2016, and if your entry is chosen, you could win Fisherbrand products!

All entries become property of Thermo Fisher Scientific and may be used in but not limited to the LabReporter publication.





**Fisher
Scientific**

300 Industry Drive
Pittsburgh, PA 15275

PRSR STD
U.S. POSTAGE
PAID
BOLINGBROOK, IL
PERMIT NO. 1876



nl new lab
su start-up
program

Set Your Lab in Motion
2016

Congratulations on your new lab!

We'd like to help you get started.

Let the 2016 Fisher Scientific™ New Lab Start-Up (NLSU) Program work for you as an effective, economical way to obtain special time- and money-saving offers on the supplies you need.

For more information and to apply, go to:

www.fishersci.com/newlab (US)

| www.fishersci.ca/newlab (Canada)

For Healthcare customers, please note that the value of the special offer that the Customer may receive under this program is a "discount or other reduction in price" to Customer under section 1128B(b)(3)(A) of the Social Security Act (42 U.S.C. 1320a-7b(b)(3)(9a)). Accordingly, Customer shall disclose this and any other discounts or other reductions in price received under this program under any state or federal program which provides cost- or charge-based reimbursement to Customer for the products or services purchased under this program. Please contact your Fisher Scientific Sales Representative for cost savings.

The factual representations regarding the products accurately reflect the manufacturers' representations to Fisher Scientific. To the extent permissible, Fisher Scientific will make available to its customers the manufacturers' warranties. The sole and exclusive liability of Fisher Scientific shall be refund of the purchase price or replacement of the product. In no event shall Fisher Scientific be liable for incidental or consequential damages. **FISHER SCIENTIFIC EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.** Prices may change without notice. Prices are U.S. list prices — pricing may vary in Canada. Content and printed prices subject to confirmation by your Fisher Scientific Sales Representative. Telephone calls may be monitored as part of Fisher Scientific's quality process.

© 2016 Thermo Fisher Scientific Inc.
All rights reserved.
Trademarks used are owned as indicated
at www.fishersci.com/trademarks.
Litho in U.S.A. 16-0360 03/16
BN0307161