

2016 Calendar

# Magnificent Discoveries in Biology

Great scientists who left their stamp on our world.



# 2016 Year Planner

| JANUARY |    |   | FEBRUARY |    |   | MARCH |    |    | APRIL |    |    | MAY |    |    | JUNE |    |    |
|---------|----|---|----------|----|---|-------|----|----|-------|----|----|-----|----|----|------|----|----|
| F       | 1  |   | M        | 1  | 5 | T     | 1  |    | F     | 1  |    | S   | 1  |    | W    | 1  |    |
| S       | 2  |   | T        | 2  |   | W     | 2  |    | S     | 2  |    | M   | 2  | 18 | T    | 2  |    |
| S       | 3  |   | W        | 3  |   | T     | 3  |    | S     | 3  |    | T   | 3  |    | F    | 3  |    |
| M       | 4  | 1 | T        | 4  |   | F     | 4  |    | M     | 4  | 14 | W   | 4  |    | S    | 4  |    |
| T       | 5  |   | F        | 5  |   | S     | 5  |    | T     | 5  |    | T   | 5  |    | S    | 5  |    |
| W       | 6  |   | S        | 6  |   | S     | 6  |    | W     | 6  |    | F   | 6  |    | M    | 6  | 23 |
| T       | 7  |   | S        | 7  |   | M     | 7  | 10 | T     | 7  |    | S   | 7  |    | T    | 7  |    |
| F       | 8  |   | M        | 8  | 6 | T     | 8  |    | F     | 8  |    | S   | 8  |    | W    | 8  |    |
| S       | 9  |   | T        | 9  |   | W     | 9  |    | S     | 9  |    | M   | 9  | 19 | T    | 9  |    |
| S       | 10 |   | W        | 10 |   | T     | 10 |    | S     | 10 |    | T   | 10 |    | F    | 10 |    |
| M       | 11 | 2 | T        | 11 |   | F     | 11 |    | M     | 11 | 15 | W   | 11 |    | S    | 11 |    |
| T       | 12 |   | F        | 12 |   | S     | 12 |    | T     | 12 |    | T   | 12 |    | S    | 12 |    |
| W       | 13 |   | S        | 13 |   | S     | 13 |    | W     | 13 |    | F   | 13 |    | M    | 13 | 24 |
| T       | 14 |   | S        | 14 |   | M     | 14 | 11 | T     | 14 |    | S   | 14 |    | T    | 14 |    |
| F       | 15 |   | M        | 15 | 7 | T     | 15 |    | F     | 15 |    | S   | 15 |    | W    | 15 |    |
| S       | 16 |   | T        | 16 |   | W     | 16 |    | S     | 16 |    | M   | 16 | 20 | T    | 16 |    |
| S       | 17 |   | W        | 17 |   | T     | 17 |    | S     | 17 |    | T   | 17 |    | F    | 17 |    |
| M       | 18 | 3 | T        | 18 |   | F     | 18 |    | M     | 18 | 16 | W   | 18 |    | S    | 18 |    |
| T       | 19 |   | F        | 19 |   | S     | 19 |    | T     | 19 |    | T   | 19 |    | S    | 19 |    |
| W       | 20 |   | S        | 20 |   | S     | 20 |    | W     | 20 |    | F   | 20 |    | M    | 20 | 25 |
| T       | 21 |   | S        | 21 |   | M     | 21 | 12 | T     | 21 |    | S   | 21 |    | T    | 21 |    |
| F       | 22 |   | M        | 22 | 8 | T     | 22 |    | F     | 22 |    | S   | 22 |    | W    | 22 |    |
| S       | 23 |   | T        | 23 |   | W     | 23 |    | S     | 23 |    | M   | 23 | 21 | T    | 23 |    |
| S       | 24 |   | W        | 24 |   | T     | 24 |    | S     | 24 |    | T   | 24 |    | F    | 24 |    |
| M       | 25 | 4 | T        | 25 |   | F     | 25 |    | M     | 25 | 17 | W   | 25 |    | S    | 25 |    |
| T       | 26 |   | F        | 26 |   | S     | 26 |    | T     | 26 |    | T   | 26 |    | S    | 26 |    |
| W       | 27 |   | S        | 27 |   | S     | 27 |    | W     | 27 |    | F   | 27 |    | M    | 27 | 26 |
| T       | 28 |   | S        | 28 |   | M     | 28 | 13 | T     | 28 |    | S   | 28 |    | T    | 28 |    |
| F       | 29 |   | M        | 29 | 9 | T     | 29 |    | F     | 29 |    | S   | 29 |    | W    | 29 |    |
| S       | 30 |   |          |    |   | W     | 30 |    | S     | 30 |    | M   | 30 | 22 | T    | 30 |    |
| S       | 31 |   |          |    |   | T     | 31 |    |       |    |    | T   | 31 |    |      |    |    |

| JULY |    |    | AUGUST |    |    | SEPTEMBER |    |    | OCTOBER |    |    | NOVEMBER |    |    | DECEMBER |    |    |
|------|----|----|--------|----|----|-----------|----|----|---------|----|----|----------|----|----|----------|----|----|
| F    | 1  |    | M      | 1  | 31 | T         | 1  |    | S       | 1  |    | T        | 1  |    | T        | 1  |    |
| S    | 2  |    | T      | 2  |    | F         | 2  |    | S       | 2  |    | W        | 2  |    | F        | 2  |    |
| S    | 3  |    | W      | 3  |    | S         | 3  |    | M       | 3  | 40 | T        | 3  |    | S        | 3  |    |
| M    | 4  | 27 | T      | 4  |    | S         | 4  |    | T       | 4  |    | F        | 4  |    | S        | 4  |    |
| T    | 5  |    | F      | 5  |    | M         | 5  | 36 | W       | 5  |    | S        | 5  |    | M        | 5  | 49 |
| W    | 6  |    | S      | 6  |    | T         | 6  |    | T       | 6  |    | S        | 6  |    | T        | 6  |    |
| T    | 7  |    | S      | 7  |    | W         | 7  |    | F       | 7  |    | M        | 7  | 45 | W        | 7  |    |
| F    | 8  |    | M      | 8  | 32 | T         | 8  |    | S       | 8  |    | T        | 8  |    | T        | 8  |    |
| S    | 9  |    | T      | 9  |    | F         | 9  |    | S       | 9  |    | W        | 9  |    | F        | 9  |    |
| S    | 10 |    | W      | 10 |    | S         | 10 |    | M       | 10 | 41 | T        | 10 |    | S        | 10 |    |
| M    | 11 | 28 | T      | 11 |    | S         | 11 |    | T       | 11 |    | F        | 11 |    | S        | 11 |    |
| T    | 12 |    | F      | 12 |    | M         | 12 | 37 | W       | 12 |    | S        | 12 |    | M        | 12 | 50 |
| W    | 13 |    | S      | 13 |    | T         | 13 |    | T       | 13 |    | S        | 13 |    | T        | 13 |    |
| T    | 14 |    | S      | 14 |    | W         | 14 |    | F       | 14 |    | M        | 14 | 46 | W        | 14 |    |
| F    | 15 |    | M      | 15 | 33 | T         | 15 |    | S       | 15 |    | T        | 15 |    | T        | 15 |    |
| S    | 16 |    | T      | 16 |    | F         | 16 |    | S       | 16 |    | W        | 16 |    | F        | 16 |    |
| S    | 17 |    | W      | 17 |    | S         | 17 |    | M       | 17 | 42 | T        | 17 |    | S        | 17 |    |
| M    | 18 | 29 | T      | 18 |    | S         | 18 |    | T       | 18 |    | F        | 18 |    | S        | 18 |    |
| T    | 19 |    | F      | 19 |    | M         | 19 | 38 | W       | 19 |    | S        | 19 |    | M        | 19 | 51 |
| W    | 20 |    | S      | 20 |    | T         | 20 |    | T       | 20 |    | S        | 20 |    | T        | 20 |    |
| T    | 21 |    | S      | 21 |    | W         | 21 |    | F       | 21 |    | M        | 21 | 47 | W        | 21 |    |
| F    | 22 |    | M      | 22 | 34 | T         | 22 |    | S       | 22 |    | T        | 22 |    | T        | 22 |    |
| S    | 23 |    | T      | 23 |    | F         | 23 |    | S       | 23 |    | W        | 23 |    | F        | 23 |    |
| S    | 24 |    | W      | 24 |    | S         | 24 |    | M       | 24 | 43 | T        | 24 |    | S        | 24 |    |
| M    | 25 | 30 | T      | 25 |    | S         | 25 |    | T       | 25 |    | F        | 25 |    | S        | 25 |    |
| T    | 26 |    | F      | 26 |    | M         | 26 | 39 | W       | 26 |    | S        | 26 |    | M        | 26 | 52 |
| W    | 27 |    | S      | 27 |    | T         | 27 |    | T       | 27 |    | S        | 27 |    | T        | 27 |    |
| T    | 28 |    | S      | 28 |    | W         | 28 |    | F       | 28 |    | M        | 28 | 48 | W        | 28 |    |
| F    | 29 |    | M      | 29 | 35 | T         | 29 |    | S       | 29 |    | T        | 29 |    | T        | 29 |    |
| S    | 30 |    | T      | 30 |    | F         | 30 |    | S       | 30 |    | W        | 30 |    | F        | 30 |    |
| S    | 31 |    | W      | 31 |    |           |    |    | M       | 31 | 44 |          |    |    | S        | 31 |    |



**Reput(Ab)le Antibodies**  
 We're validated. We're guaranteed. We're published.  
 We create the antibodies most cited by the research community.

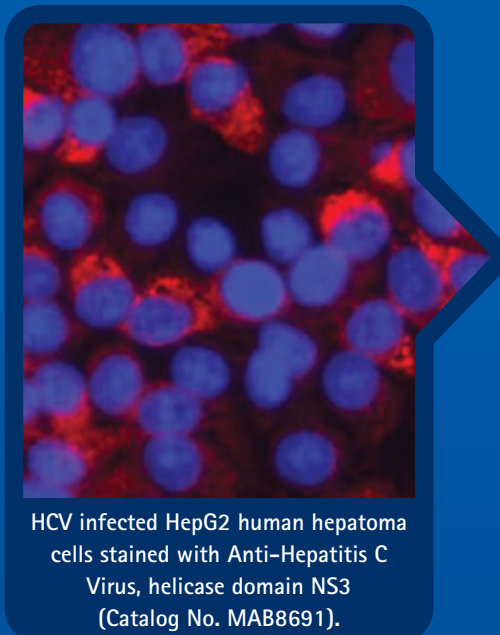
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# Microbiology Master

## Antonie van Leeuwenhoek

Dutch cloth merchant who initially developed powerful microscopes for examining fabric. He was the first to describe single-cell organisms, which he called "animalcules" in his letters to the Royal Society of London. Thanks to his many and meticulous reports, Leeuwenhoek's work was widely read and ultimately respected.



HCV infected HepG2 human hepatoma cells stained with Anti-Hepatitis C Virus, helicase domain NS3 (Catalog No. MAB8691).



'Animalcules' observed by van Leeuwenhoek.

# 2016

EMD Millipore provides the tools you need to advance your life science research. Rely on us for innovative platforms for protein and cellular analysis:

- Scepter™ 2.0 Automated Cell Counter
- Muse® Cell Analyzer
- guava easyCyte™ Flow Cytometers
- Amnis® Imaging Flow Cytometers
- CellASIC® ONIX Live Cell Analysis Platform
- Luminex® Instruments, MILLIPLEX® Kits and Software
- Direct Detect® Spectrometer
- SNAP i.d.® 2.0 System for Western blotting and IHC
- GyroMark™ HT Kits
- ELISA kits and RIAs
- Validated Antibodies
- Small Molecule Inhibitors

Died 1723 A.D.

1671 A.D.

Born 1632 A.D.

“Whenever I found out anything remarkable, I have thought it my duty to put down my discovery on paper, so that all ingenious people might be informed thereof.”

-Antonie van Leeuwenhoek

# January

## TECHNOLOGY HIGHLIGHT

### Scepter™ 2.0 Portable Cell Counter

Precise, handheld cell counting

While other automated counters consume bench space and rely on object recognition software, manual focusing, and clumsy loading chambers, the Scepter™ 2.0 portable cell counter provides true automation without the error that accompanies vision-based systems. With its microfabricated, precision-engineered sensor, the Scepter™ cell counter does all the work and delivers accurate and reliable cell counts in less than 30 seconds.

[www.emdmillipore.com/scepter](http://www.emdmillipore.com/scepter)



| SUNDAY   | MONDAY   | TUESDAY  | WEDNESDAY | THURSDAY   | FRIDAY  | SATURDAY  |
|--|--|--|-----------|--|---|---|
| DECEMBER<br>S M T W T F S<br>1 2 3 4 5<br>6 7 8 9 10 11 12<br>13 14 15 16 17 18 19<br>20 21 22 23 24 25 26<br>27 28 29 30 31 | FEBRUARY<br>S M T W T F S<br>1 2 3 4 5 6<br>7 8 9 10 11 12 13<br>14 15 16 17 18 19 20<br>21 22 23 24 25 26 27<br>28 29 |  |           |  |   |   |
|  |  | International Conference Biomolecular Engineering (ICBE) • Singapore (5th-7th) |           |  | New Year's Day  | 2   |
| 3  | 4  | 5  | 6         | 7  | 8   | 9   |
| Winter Conference on Plasma Spectrochemistry • Tucson, AZ, USA (10th-16th)   |  |  |           |  |   |   |
|  |  |  |           |  | American Society for Peripheral Nerve Annual Mtg. Scottsdale, AZ, USA (15th-17th) ▶ |   |
| 10   | 11   | 12   | 13        | 14   | Pongal  | 16  |
| ◀ American Society for Peripheral Nerve Annual Mtg. Scottsdale, AZ, USA (15th-17th)  | CHI PepTalk • San Diego, CA, USA (18th-22nd)   |  |           |  |   | Society for Laboratory Automation & Screening (SLAS) Conference & Exhibition San Diego, CA, USA (23rd-27th) ▶ |
| 17   | Martin Luther King Jr. Day (US)  | 18   | 19        | 20   | 21  | 22 ● 23   |
| 24   | Society for Laboratory Automation & Screening (SLAS) Conference and Exhibition San Diego, CA, USA (23rd-27th)          |  |           | A Matter of Life or Death: Cell Death in Cancer Amsterdam, Netherlands (28th-30th) |   |   |
|  | 14th Cytokines & Inflammation Conference San Diego, CA, USA (25th-26th)  |  |           |  |   |   |
| 31   | 25   | 26   | 27        | 28   | 29  | 30  |



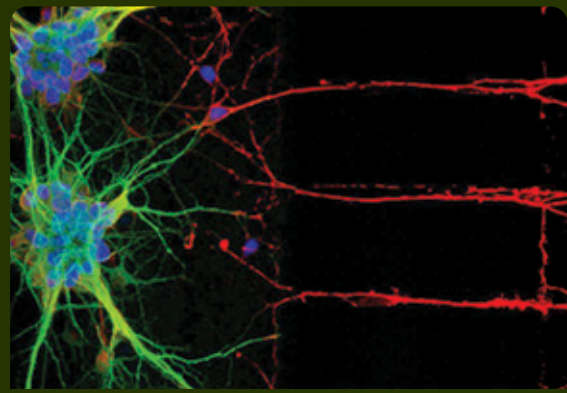
**Reput(Ab)le Antibodies**  
We're validated. We're guaranteed. We're published.  
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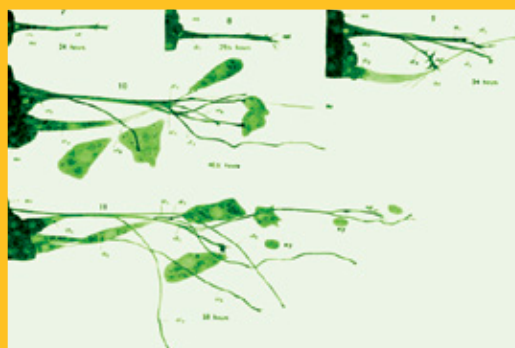
# Tissue Culture Trailblazer

Ross Granville Harrison

American anatomist who was the first to culture animal tissues. Harrison laid the foundation for modern cell culture by testing the hypothesis that tissues cultured *in vitro* would respond differently depending on the composition of the contacting fluid/medium. Harrison constantly questioned how assembling cells *in vitro* could accurately represent the whole organism, a question we are still trying to answer today.



Immunocytochemical staining of mouse Balb/c P3 mixed cortical neuron culture. Somas and dendrites are stained with anti-MAP2 (Catalog No. MAB3418, green), axons are stained using anti-βIII tubulin (Catalog No. AB15708, red), and nuclei are counterstained with DAPI (blue).



Outgrowth and defasciculation of axons and growth cones in culture, as drawn by Harrison.

# 2016

EMD Millipore provides quality tools to advance your stem cell research. Whether you are culturing stem cells, inducing pluripotency, studying differentiation, or characterizing stem cell populations, you can count on us for the tools you need:

- **Antibodies** (targets such as Oct-4, TRA, Sox, SSEA, Wnt, Lin-28, Nestin, Nanog, Human Nuclei, Human Mitochondria)
- **Inhibitors** (for Wnt, Shh, Notch, and TGF-β signaling)
- **Characterization Kits** (such as those for ES cells, ES/iPS Cells, Neural Stem Cells, Endothelial Cells, Human Mesenchymal Stem Cell, Human Oligodendrocytes, and more)
- **Human Cell Systems** (Pluripotent Human ES Cells, Neural Stem Cells, Mesenchymal Stem Cells, Primary Human Cells, and more)
- **Rodent Cell Systems** (Pluripotent Mouse ES Cells, PMEFs, Mouse Embryo Culture, Multipotent Rodent Stem Cells)
- **Cellular Reprogramming** (Simplicon™ RNA Reprogramming, STEMCCA™ Reprogramming Technology, Reprogramming Boost Kits, iPS Cell Characterization)
- **Media and Reagents** (including Cytokines, Growth Factors, ECM Proteins)
- **Cultureware and Coated Plates**
- **AldeRed™ ALDH Detection Assay**

Died 1959 A.D.

1910 A.D.

Born 1870 A.D.

“...we are still confronted [...] with this most significant but perplexing problem of biology: how an organism can be made up of independently working parts, and, at the same time, have the whole represented in each part.”

-Ross Granville Harrison

# February

▶ TECHNOLOGY HIGHLIGHT

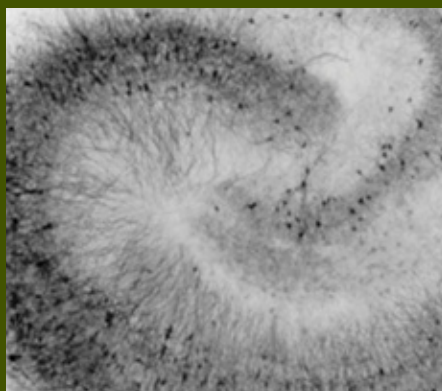
## Millicell® Cell Culture Inserts

Hanging Millicell® inserts provide an additional level of flexibility for users who need to remove inserts for media feeding, changes, and monolayer analysis. Millicell® inserts are available in three sizes for 24-, 12- or 6-well plates.

Our patented plate design incorporates unique features meant to optimize your cell culture including an apical assist, access ports for basolateral access, a tear-drop well design, and full ANSI/SBS-automation compatibilities.

Find out how these and other novel plate characteristics contribute to greater convenience and reproducibility and translate into value for your specific application.

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Hippocampal explant grown on Millicell® organotypic insert in 1.5 mM Mg Hanks buffer.

| SUNDAY  | MONDAY         | TUESDAY                     | WEDNESDAY | THURSDAY      | FRIDAY | SATURDAY  |
|---|----------------|-----------------------------|-----------|---------------|--------|---|
| JANUARY   |                |                             |           |               |        |   |
| S M T W T F S   |                |                             |           |               |        |   |
|   |                |                             |           |               |        |   |
| 3 4 5 6 7 8 9   |                |                             |           |               |        |   |
| 10 11 12 13 14 15 16  |                |                             |           |               |        |   |
| 17 18 19 20 21 22 23  |                |                             |           |               |        |   |
| 24 25 26 27 28 29 30  |                |                             |           |               |        |   |
| 31  | 1              | Groundhog Day               | 2         | 3             | 4      | 5   |
| International Conference on Nanoscience and Nanotechnology (ICONN) • Canberra, Australia (7th-11th) |                |                             |           |               |        |   |
| The Cancer Genome • Banff, Canada (7th-11th)  |                |                             |           |               |        |   |
| Ageing 2016 • London, UK (9th-11th)   |                |                             |           |               |        |   |
| AAAS Annual Meeting • Washington, D.C., USA (11th-15th) ▶   |                |                             |           |               |        |   |
| 7   | Lunar New Year | 8                           | 9         | Ash Wednesday | 10     | 11  |
|   |                |                             |           |               |        | 12  |
|   |                |                             |           |               |        | Lincoln's Birthday  |
|   |                |                             |           |               |        | 13  |
| ◀ AAAS Annual Meeting Washington, D.C., USA (11th-15th)   |                |                             |           |               |        |   |
|   |                |                             |           |               |        | ABRF Ft. Lauderdale, FL, USA (20th-23rd) ▶                                    |
| Valentine's Day   | 14             | Presidents' Day Nirvana Day | 15        | 16            | 17     | 18  |
|   |                |                             |           |               |        | 19  |
|   |                |                             |           |               |        | 20  |
| ◀ ABRF • Ft. Lauderdale, FL, USA (20th-23rd)  |                |                             |           |               |        |   |
|   |                |                             |           |               |        | Biophysical Society 60th Annual Meeting Los Angeles, CA, USA (27th-Mar 2nd) ▶ |
| 21  | ●              | 22                          | 23        | 24            | 25     | 26  |
|   |                |                             |           |               |        | 27  |
| ◀ Biophysical Society 60th Annual Meeting • Los Angeles, CA, USA (27th-Mar 2nd)                     |                |                             |           |               |        |   |
|   |                |                             |           |               |        | MARCH   |
|   |                |                             |           |               |        | S M T W T F S   |
|   |                |                             |           |               |        | 1 2 3 4 5   |
|   |                |                             |           |               |        | 6 7 8 9 10 11 12  |
|   |                |                             |           |               |        | 13 14 15 16 17 18 19  |
|   |                |                             |           |               |        | 20 21 22 23 24 25 26  |
|   |                |                             |           |               |        | 27 28 29 30 31  |
| 28  | 29             | 1                           | 2         | 3             | 4      |   |



## Suit(Ab)le Antibodies

We're selective. We're specific. We're scientists.

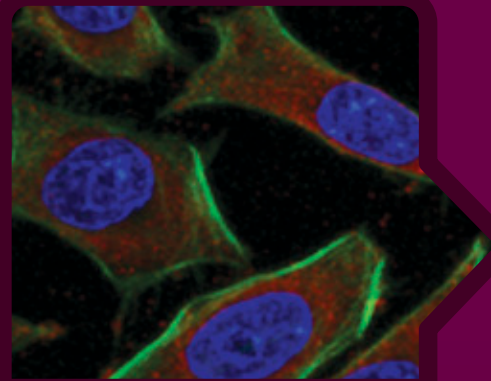
We create the antibodies that are most relevant for today's research needs.

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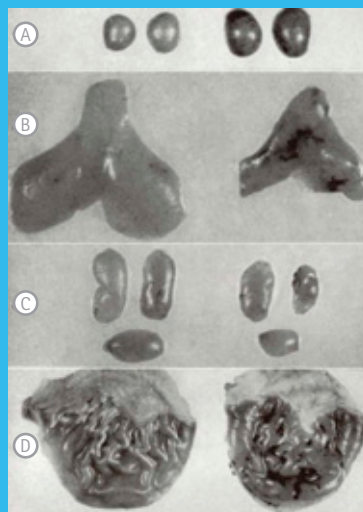
# Stress Detector

Hans Selye

Endocrinologist of Austro-Hungarian origin and working in Canada, who first described the biological stress response, publishing over 1,000 papers on the topic. His work revealed that, regardless of the specific nature of the stressor, the body responded with the same or similar set of molecular and cellular events. Later researchers showed that psychosocial stress appears to increase oxidative stress and accelerate biological aging.



Hydrogen peroxide-treated HeLa cells stained using Anti-NF-E2-related factor 2 (Catalog No. ABE413, red). Actin filaments are shown in green. Nuclei are stained with DAPI (Blue). Cytoplasmic staining is increased under oxidative stress.



The typical triad of the "general alarm reaction". (A) adrenals, (B) thymus, (C) iliac lymph nodes, and (D) gastric mucosa of a normal rat (left) and one which was exposed to the frustrating mental stress of being immobilized on a metal board for 24 h. (Selye H. 1952).

# 2016

EMD Millipore provides quality tools to advance your oxidative stress research. Investigate the mechanisms of oxidative stress using validated antibodies, small molecule inhibitors, oxidation detection kits, and more.

Our oxidative stress detection kits provide all chemical and immunological reagents necessary to perform quantitative and qualitative detection of carbonyl groups introduced into proteins by oxidative reactions with oxygen free radicals and other reactive species. These kits enable a simple and sensitive measurement of protein oxidation using various techniques.

Choose from:

- OxyBlot™ Protein Oxidation Detection Kit (Catalog No. S7150)
- OxyELISA™ Oxidized Protein Quantitation Kit (Catalog No. S7250)
- OxyICC™ Oxidized Protein Detection Kit (Catalog No. S7350)
- OxyIHC™ Oxidized Protein Detection Kit (Catalog No. S7450)

Died 1982 A.D.

1936 A.D.

Born 1907 A.D.



# March

“Adopting the right attitude can convert a negative stress into a positive one.”

-Hans Selye

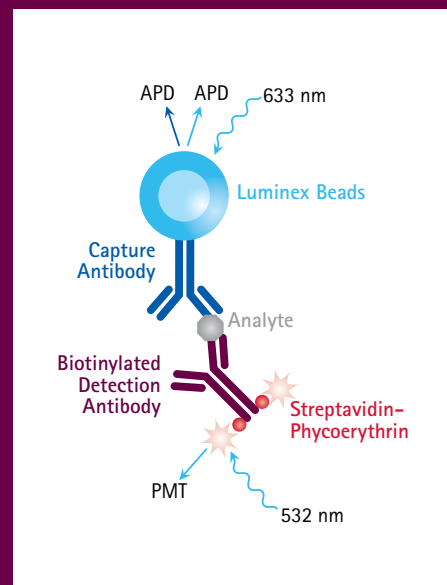
▶ TECHNOLOGY HIGHLIGHT

## MILLIPLEX<sup>®</sup> MAP Kits

Bring your biomarkers to life with simultaneous multianalyte detection.

MILLIPLEX<sup>®</sup> MAP multiplex assays consist of analyte-specific capture antibodies conjugated to xMAP<sup>®</sup> beads, enabling multivariate analysis of complex biological states, including intracellular signaling networks, metabolic disease, immunology, neurodegenerative disease, toxicity, cancer and more, using minimal sample volumes. MILLIPLEX<sup>®</sup> MAP assays are analytically validated for sensitivity, specificity, reproducibility, and wide dynamic range.

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| SUNDAY   | MONDAY           | TUESDAY  | WEDNESDAY | THURSDAY          | FRIDAY   | SATURDAY |
|--|------------------|--|-----------|-------------------|--|----------|
| FEBRUARY   |                  | ◀ Biophysical Society 60th Annual Meeting<br>Los Angeles, CA, USA (Feb 27th-Mar 2nd) |           |                   |  |          |
| S M T W T F S  |                  | Daylight Savings (US) 1  | 2         | 3                 | 4  | 5        |
| 1 2 3 4 5 6  |                  |  |           |                   |  |          |
| 7 8 9 10 11 12 13  |                  |  |           |                   |  |          |
| 14 15 16 17 18 19 20   |                  |  |           |                   |  |          |
| 21 22 23 24 25 26 27   |                  |  |           |                   |  |          |
| 28 29  |                  |  |           |                   |  |          |
| Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON <sup>®</sup> ) • Atlanta, GA, USA (6th-10th) |                  |  |           |                   |  |          |
| Molecular Med TRI-CON • San Francisco, CA, USA (6th-11th)  |                  |  |           |                   |  |          |
| 6  | 7                | 8  | 9         | 10                | 11   | 12       |
| 251st American Chemical Society National Meeting & Exposition • San Diego, CA, USA (13th-16th)                               |                  |  |           |                   | International Conference of Pharmacy and Health Sciences 2016 (ICPHS) • Ipoh, Malaysia (18th-20th) ▶ |          |
| Society of Toxicology's 55th Annual Meeting and ToxExpo • New Orleans, LA, USA (13th-17th)                                   |                  |  |           |                   | American Society for Neurochemistry (ASN) Denver, CO, USA (18th-20th) ▶                              |          |
| 1st International Conference on Applied Chemistry (ICAC 2016) • Luxor, Egypt (14th-17th)                                     |                  |  |           |                   |  |          |
| 13   | 14               | 15   | 16        | St. Patrick's Day | 18   | 19       |
| ◀ ICPHS • Ipoh, Malaysia (18th-20th)   |                  | ◀ ASN • Denver, CO, USA (18th-20th)  |           |                   |  |          |
| Spring Equinox   | Human Rights Day | 21 ●   | Holi      | 24                | Good Friday  | 26       |
| 20   | 21               | 22   | 23        | 24                | 25   | 26       |
| APRIL  |                  |  |           |                   |  |          |
| S M T W T F S  |                  |  |           |                   |  |          |
| 1 2  |                  |  |           |                   |  |          |
| 3 4 5 6 7 8 9  |                  |  |           |                   |  |          |
| 10 11 12 13 14 15 16   |                  |  |           |                   |  |          |
| 17 18 19 20 21 22 23   |                  |  |           |                   |  |          |
| 24 25 26 27 28 29 30   |                  |  |           |                   |  |          |
| Easter Sunday  | Easter Monday    | 29   | 30        | 31                | 1  |          |
| 27   | 28               | 29   | 30        | 31                | 1  |          |

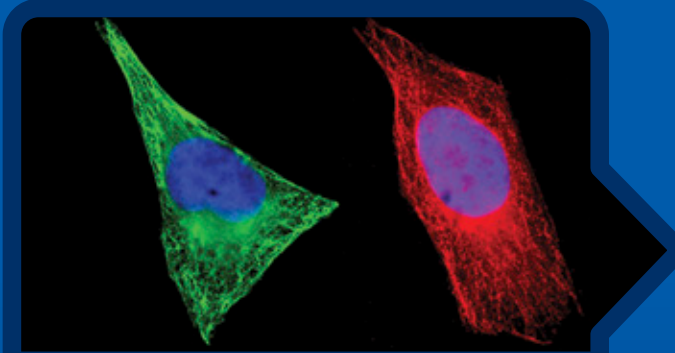


**Verifi(Ab)le Antibodies**

Lot to lot. Experiment to experiment.

Our Anti-Fail testing guidelines meet your most demanding expectations.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)

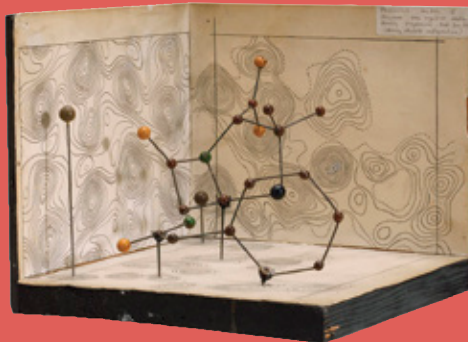


Immunostaining for  $\beta$ -Tubulin in HeLa cells using Anti- $\beta$ -Tubulin Antibody, clone AA2, conjugated to Alexa Fluor<sup>®</sup> 488 conjugate (Catalog No. 16-230, green) or Alexa Fluor<sup>®</sup> 555 (Catalog No. 16-231, red).

# X-ray Crystallography Expert

Dorothy Crowfoot Hodgkin

British biochemist who, together with John Bernal, obtained the first x-ray crystallographic structure of a protein. Hodgkin went on to determine the structures of penicillin, vitamin B12, and insulin. In 1964, she became the third woman to win the Nobel Prize in chemistry (after Marie Curie and Irene Joliot-Curie).



Molecular model of penicillin by Dorothy Hodgkin, c. 1945. Science Museum London.

# 2016

EMD Millipore provides quality tools to advance your cell structure research. Just as X-ray crystallography has served as an excellent tool to study molecular structure, antibodies are the perfect tool to study cellular structure.

Advance your cell structure research with validated antibodies and potent small molecules to targets such as:

- Cytoskeletal proteins  
(such as Actin, Tubulins, Microfilaments)
- Cell Adhesion proteins  
(such as  $\alpha$  Integrins,  $\beta$  integrins)
- Extracellular Matrix elements  
(such as Collagen, Fibronectin, Laminin, Tenascin)
- Matrix Metalloproteinases and Proteases  
(such as MMPs, TIMPs, ADAMs)

EMD Millipore also offers a range of research products for your cell structure studies, including proteins, enzymes, migration and invasion assays, cultureware, media, and more.

Died 1994 A.D.

1945 A.D.

Born 1910 A.D.

“There's the moment when you know you can find out the answer and that's the period you are sleepless before you know what it is. When you've got it and know what it is, then you can rest easy.”  
-Dorothy Crowfoot Hodgkin

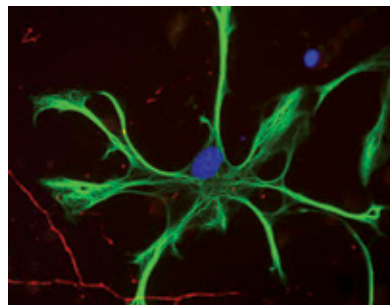
▶ TECHNOLOGY HIGHLIGHT

## Antibodies

EMD Millipore develops monoclonal and polyclonal antibodies for major research areas including Neuroscience, Epigenetics, Cell Signaling, Cancer, and Cellular Structure. With the expertise of Calbiochem®, Upstate® and Chemicon®, EMD Millipore provides extensive, focused portfolios of multi-application validated antibodies and assays backed by excellent service and support.

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Verifi(Ab)le  
Suit(Ab)le  
Reput(Ab)le



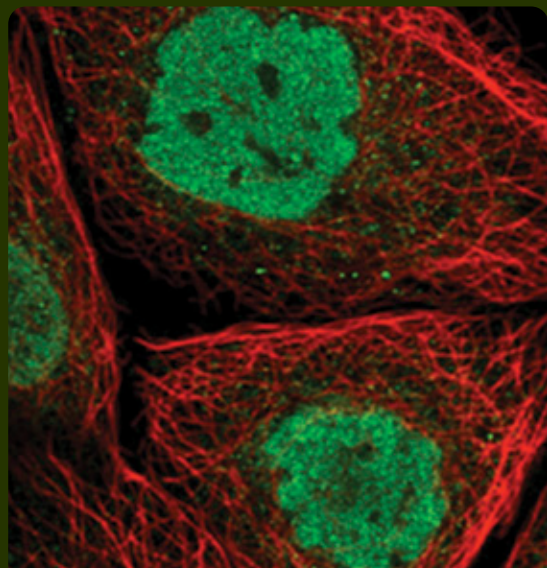
Cultured neonatal rat forebrain stained with Anti-GFAP (Catalog No. AB5804, green) and Anti-Neurofilament-H (Catalog No. AB5539, red). Nuclei are stained blue with Hoechst DNA stain.

| SUNDAY  | MONDAY  | TUESDAY                                      | WEDNESDAY  | THURSDAY | FRIDAY             | SATURDAY  |
|---|---|--|--|----------|--------------------|---|
| MARCH<br>S M T W T F S<br>1 2 3 4 5<br>6 7 8 9 10 11 12<br>13 14 15 16 17 18 19<br>20 21 22 23 24 25 26<br>27 28 29 30 31 | MAY<br>S M T W T F S<br>1 2 3 4 5 6 7<br>8 9 10 11 12 13 14<br>15 16 17 18 19 20 21<br>22 23 24 25 26 27 28<br>29 30 31 |  |  |          |                    | Experimental Biology (EB 2016) • San Diego, CA, USA (2nd-6th) ▶<br>18th International Neuroscience Winter Conference • Soelden, Austria (2nd-6th) ▶ |
|   |   |  |  |          | April Fool's Day 1 | 2   |
| ◀ Experimental Biology (EB 2016) • San Diego, CA, USA (2nd-6th)   |   |  | ◀ 18th International Neuroscience Winter Conference • Soelden, Austria (2nd-6th) |          |                    |   |
|   | Pichia 2016 Protein Expression Conference • Antalya, Turkey (4th-6th)   |  |  |          |                    |   |
|   |   | RNAi 2016: RNA Therapeutics Oxford, UK (5th) |  |          |                    |   |
| 3   | 4   | 5  | 6  | 7        | 8                  | 9   |
| 10  | 11  | 12   | Vaisakhi 13  | 14       | 15                 | 16  |
| 17  | 18  | 19   | 20 ●   | 21       | Earth Day 22       | Passover Begins 23  |
| 24  | 25  | 26   | 27   | 28       | 29                 | Last Day of Passover 30   |

# Vaccine Vanguard

## Edward Jenner

Although "variolation" (applying subcutaneous smallpox virus to unaffected individuals) was a long-established method of conferring immunity in Africa, India, and China, it was not introduced to Europe until the 1700s. British surgeon Edward Jenner discovered that vaccination (using cowpox, or vaccinia, instead of smallpox virus) was equally effective with fewer side effects. Jenner personally vaccinated as many people as he could, many for no charge. His generosity earned him fame, if not fortune.



A431 cells were stained using Anti-XRCC1 (Catalog No. ABC738, green). Microtubules are shown in red.



Cowpox sores on the hand of dairymaid, Sarah Nelmes as observed by Jenner.

# 2016

EMD Millipore provides quality tools to advance your cancer research, with validated antibodies, small molecule inhibitors, and kits and assays to investigate:

- Caspase Activation
- Mitochondrial Pathways
- Phosphatidylserine Translocation
- Annexin V Binding
- Autophagy Modulation
- Angiogenesis Induction and Inhibition
- Cell Proliferation
- Telomeres and Telomerase Activity
- DNA Damage
- Pro-inflammatory Cytokines
- Invasion, Migration, and Metastasis Mechanisms

Died 1823 A.D.

1798 A.D.

Born 1749 A.D.

# May

“The deviation of man from the state in which he was originally placed by nature seems to have proved to him a prolific source of diseases.”

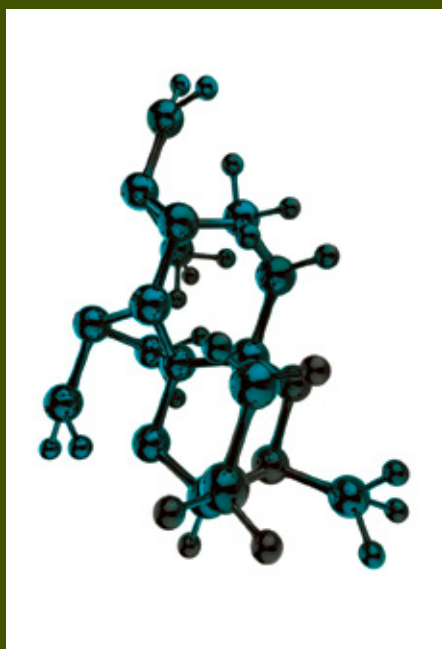
-Edward Jenner

▶ TECHNOLOGY HIGHLIGHT

## Small Molecules

EMD Millipore's pure, potent, preferred Small Molecules can advance your life science research. We offer the Calbiochem® brand of high quality small molecules, including inhibitors, activators, agonists, antagonists, and other modulators. These chemical compounds allow you to study mechanisms that control cellular signaling, protein function, cell fate, and phenotype. We offer the widest and most cited selection of inhibitors and activators worldwide.

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| SUNDAY  | MONDAY             | TUESDAY | WEDNESDAY                             | THURSDAY           | FRIDAY  | SATURDAY               |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|---|--------------------|---------|---------------------------------------|--------------------|---|------------------------|---|---|---|---|---|---|---|--|--|--|--|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|--|--|--|--|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| May Day<br>1  | 2                  | 3       | Greenery Day<br>4                     | Cinco de Mayo<br>5 | 6   | 7                      |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| Mother's Day<br>8   | 9                  | 10      | 11                                    | 12                 | 13  | 14                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| <div style="display: flex; justify-content: space-between;"> <span>◀ The American Association of Immunologists (AAI) • Seattle, WA, USA (13th-17th)</span> <span>The American Association of Immunologists (AAI) ▶<br/>Seattle, WA, USA (13th-17th)</span> </div>   |                    |         |                                       |                    |   |                        |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| <div style="display: flex; justify-content: space-between;"> <span>23rd Annual International Stress and Behavior Neuroscience and Biopsychiatry Conference<br/>St-Petersburg, Russian Federation (16th-19th)</span> <span></span> </div>  |                    |         |                                       |                    |   |                        |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 15  | 16                 | 17      | 18                                    | 19                 | 20  | Armed Forces Day<br>21 |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| <div style="display: flex; justify-content: space-between;"> <span>10th Congress of the International Society of Nutrigenetics &amp; Nutrigenomics (ISNN)<br/>Tel Aviv, Israel (23rd-26th)</span> <span>Biosensors 2016 • Gothenburg, Sweden (25th-27th)</span> <span>19th International Congress of Cytology (ICC 2016) • Yokohama, Japan (28th-Jun 1st)</span> </div> |                    |         |                                       |                    |   |                        |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 22  | 23                 | 24      | National Missing Children's Day<br>25 | 26                 | 27  | 28                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| ◀ 19th International Congress of Cytology (ICC 2016) • Yokohama, Japan (28th-Jun 1st)   |                    |         |                                       |                    |   |                        |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 29  | Memorial Day<br>30 | 31      | 1                                     | 2                  | <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>APRIL</p> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> </table> </div> <div style="text-align: center;"> <p>JUNE</p> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td></tr> </table> </div> </div> |                        | S | M | T | W | T | F | S |  |  |  |  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | S | M | T | W | T | F | S |  |  |  |  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |  |  |
| S   | M                  | T       | W                                     | T                  | F   | S                      |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|   |                    |         |                                       |                    | 1   | 2                      |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 3   | 4                  | 5       | 6                                     | 7                  | 8   | 9                      |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 10  | 11                 | 12      | 13                                    | 14                 | 15  | 16                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 17  | 18                 | 19      | 20                                    | 21                 | 22  | 23                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 24  | 25                 | 26      | 27                                    | 28                 | 29  | 30                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| S   | M                  | T       | W                                     | T                  | F   | S                      |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|   |                    |         |                                       |                    | 1   | 2                      | 3 | 4 |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 5   | 6                  | 7       | 8                                     | 9                  | 10  | 11                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 12  | 13                 | 14      | 15                                    | 16                 | 17  | 18                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 19  | 20                 | 21      | 22                                    | 23                 | 24  | 25                     |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
| 26  | 27                 | 28      | 29                                    | 30                 |   |                        |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |



Suit(Ab)le Antibodies

We're selective. We're specific. We're scientists.

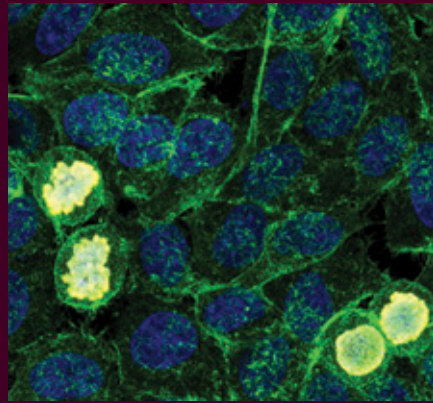
We create the antibodies that are most relevant for today's research needs.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)

# Godfather of Genetics

Gregor Johann Mendel

Austro-Hungarian scholar and abbot who characterized seven traits across 29,000 pea plants and derived the Laws of Inheritance. Only when botanist Carl Correns discovered Mendel's paper in the early 1900s and confirmed Mendel's results were the principles of chromosomal inheritance widely accepted.



Confocal fluorescent analysis of HeLa cells using Anti-phospho Histone H3 (Ser10), Alexa Fluor® 647 Conjugate (Catalog No. 06-570-AF647, yellow). Actin filaments have been labeled with Phalloidin-Alexa Fluor® 488 dye (green) and nuclei are stained with DAPI (blue).



Mendel discovered the basic principles of heredity through experiments using pea plants grown in his garden.

# 2016

EMD Millipore helps you advance your genomic analysis with the right solutions for effective:

- DNA Preparation, Extraction, and Purification
- Cloning and Transfection
- Use of Plasmid Vectors and Competent Cells
- PCR, qPCR and DNA Marker Analysis
- Next Generation Sequencing
- Protein Expression
- Live Cell RNA Detection using SmartFlare™ Probes
- Chromatin, Histone, DNA, and RNA Analysis
- Transcription Factor Assays, ChIP, RIP
- Epigenetics analysis
- DNA Methylation Analysis
- DNA Structure, Damage, Repair Analysis

Died 1905 A.D.

1886 A.D.

Born 1822 A.D.

“The value and utility of any experiment are determined by the fitness of the material to the purpose for which it is used, and thus in the case before us it cannot be immaterial what plants are subjected to experiment and in what manner such experiment is conducted.”  
 -Gregor Johann Mendel

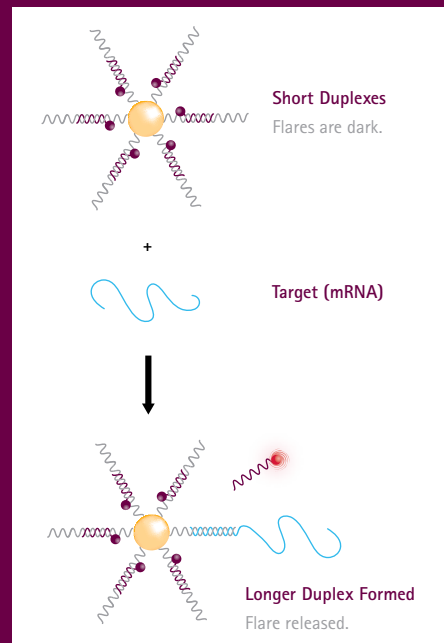
# June

▶ TECHNOLOGY HIGHLIGHT

## SmartFlare™ Live Cell Biomarker Detection Probes

Instead of lysed cells, switch to live cells. And while you're at it, eliminate transfection steps all together. Live cell biomarker detection is now possible, in a single incubation step using inert nanoparticle technology to specifically detect native RNA. And when you're done, the probes exit the cells allowing you to perform downstream analyses with the same, unperturbed cells. Make the smart change!

[www.emdmillipore.com/smartflare](http://www.emdmillipore.com/smartflare)



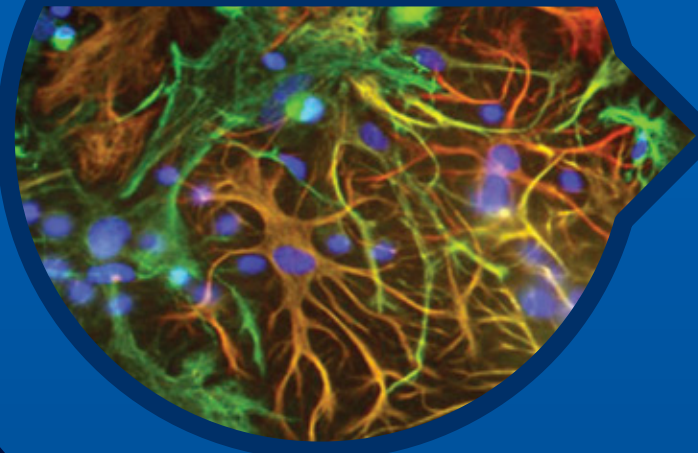
| SUNDAY  | MONDAY  | TUESDAY         | WEDNESDAY   | THURSDAY             | FRIDAY | SATURDAY  |
|---|---|-----------------|---|----------------------|--------|---|
| MAY<br>S M T W T F S<br>1 2 3 4 5 6 7<br>8 9 10 11 12 13 14<br>15 16 17 18 19 20 21<br>22 23 24 25 26 27 28<br>29 30 31 | JULY<br>S M T W T F S<br>1 2<br>3 4 5 6 7 8 9<br>10 11 12 13 14 15 16<br>17 18 19 20 21 22 23<br>24 25 26 27 28 29 30<br>31 |                 | ◀ 19th International Congress of Cytology (ICC 2016) Yokohama, Japan (May 28th-Jun 1st) |                      |        |   |
| 5   | 6   | Ramadan Begins  | 8   | Dragon Boat Festival | 10     | CYTO 2016 Seattle, WA, USA (11th-15th) ▶  |
| 12  | 13  | Flag Day        | 15  |                      |        | American Society for Virology 2016 Annual Meeting Blacksburg, VA, USA (18th-22nd) ▶ |
| 19  | 20  | Summer Solstice | 22  |                      |        |   |
| 26  | 27  |                 | 29  | 30                   | 1      | 2   |



**Verifi(Ab)le Antibodies**  
 Lot to lot. Experiment to experiment.  
 Our Anti-Fail testing guidelines meet your most demanding expectations.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)

Staining of a mixed population of neural cells from rat cerebral cortex using anti-Vimentin (Catalog No. AB5733, green) and anti-GFAP (Catalog No. AB5408, red). Nuclei are stained blue. Photo courtesy of EnCor Biotechnology, Inc.



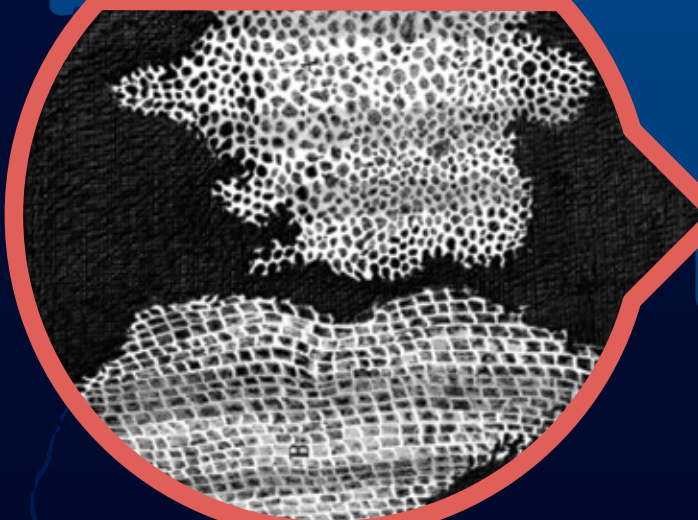
# Microscopy

## Maestro

Robert Hooke

British scientist who first used the word "cell" to describe a unit of life. Robert Hooke was an avid physicist, discovering the law of elasticity, astronomer, and microscopist—he authored the multidisciplinary book, "Micrographia". Hooke also made the prescient assertion that memories were physically created in the brain. It is fitting that modern studies of memory benefit from microscopy of neural cells.

Microscopic structure of cork "cells" by Hooke.



# 2016

EMD Millipore provides the biochemicals and reagents you need to advance your life science research. Lay the foundation for publication quality results by using high quality reagents from the start.

Research essential biochemicals offered by EMD Millipore include:

- Antibiotics, Antifungals, and Antivirals
- Buffers
- Detergents
- Dyes and Stains
- Fluorescent Conjugated Antibodies
- Substrates
- Essential Proteins (such as Albumins, Lysozyme)
- Amino Acids
- Chelating Agents, Denaturants, Ionophores
- Nucleotides, Nucleosides, Purines, Pyrimidines
- Reducing Agents, Salts, Acids, and Bases, Solvents
- Vitamins, Coenzymes, and Cofactors

Died 1703 A.D.

1665 A.D.

Born 1635 A.D.



“The truth is, the Science of Nature has been already too long made only a work of the Brain and the Fancy: It is now high time that it should return to the plainness and soundness of Observations on material and obvious things.”

-Robert Hooke

▶ TECHNOLOGY HIGHLIGHT

## CellASIC® ONIX Microfluidic Platform

The CellASIC® ONIX Microfluidic Platform delivers breakthrough control for live cell analysis experiments by combining the highest precision controls, maximum functionality, and simplified user operation for demanding long-term perfusion experiments. The system enables dynamic time-lapse experiments never before possible. Cutting-edge microfluidics technology provides an improved cell culture microenvironment, exceptional quality for high magnification microscopy, and superior media switching capabilities.

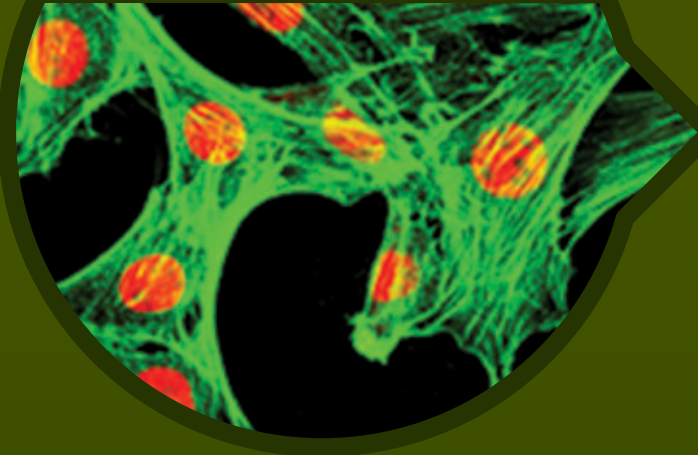
[www.emdmillipore.com/cellasic](http://www.emdmillipore.com/cellasic)



| SUNDAY   | MONDAY  | TUESDAY         | WEDNESDAY     | THURSDAY  | FRIDAY | SATURDAY  |
|--|---|-----------------|---------------|---|--------|---|
| <p>JUNE</p> <p>S M T W T F S</p> <p>1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30</p> | <p>AUGUST</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30 31</p> |                 |               |   |        | <p>FENS Forum 2016 ▶<br/>Copenhagen, Denmark<br/>(2nd-6th)</p> <p>Nanotexnology 2016 ▶<br/>Thessaloniki, Greece<br/>(2nd-9th)</p> |
|  |   |                 |               |   | 1      | 2   |
| <p>◀ FENS Forum 2016 • Copenhagen, Denmark (2nd-6th)</p> <p>◀ Nanotexnology 2016 • Thessaloniki, Greece (2nd-9th)</p>                                |   |                 |               |   |        |   |
|  |   |                 |               | <p>The Pathobiology of the Lysosome and Lysosomal Diseases Conference 2016 ▶<br/>Cambridge, UK (7th-10th)</p> |        |   |
| 3  | Independence Day (US) 4   | 5               | Eid ul-Fitr 6 | 7   | 8      | 9   |
| <p>◀ The Pathobiology of the Lysosome and Lysosomal Diseases Conference 2016<br/>Cambridge, UK (7th-10th)</p>  |   |                 |               |   |        |   |
| 10   | 11  | 12              | 13            | Bastille Day 14   | 15     | 16  |
| <p>◀ Cell Symposia: Transcriptional Regulation in Development and Disease • Chicago, IL, USA (16th-18th)</p>   |   |                 |               |   |        |   |
| 17   | 18  | Dharma Day ● 19 | 20            | 21  | 22     | 23  |
| 24   | <p>◀ Stress and Behavior: 2016<br/>Yokohama, Japan (23rd-24th)</p>  |                 |               |   |        |   |
| <p>Am Assoc Clinical Chem ▶<br/>Philadelphia, PA, USA (31st-Aug4th)</p>  |   |                 |               |   |        |   |
| 31   | 25  | 26              | 27            | 28  | 29     | 30  |



NIH/3T3 cells were stained using Anti-HuR (Catalog No. 03-102, red). Actin filaments are shown in green.



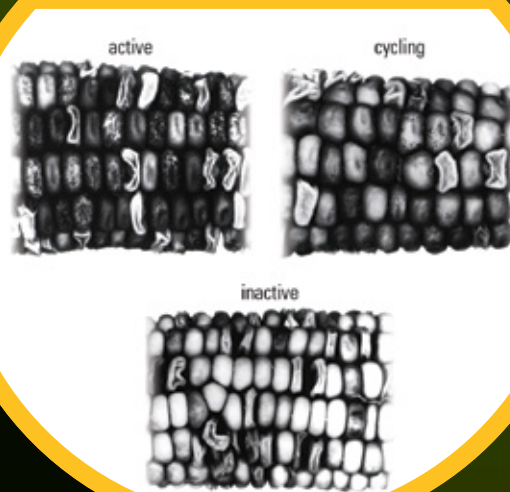
# Cytogenetics

## Innovator

### Barbara McClintock

American geneticist who first provided evidence that genes were linked because they were physically close to each other in the context of a chromosome. She was the first to show that homologous chromosomes interacted to form a crossover complex during meiosis. McClintock's discovery of transposable elements earned her the Nobel Prize in 1983.

Corn kernel specimens:  
Active, Cycling, and Inactive.



# 2016

EMD Millipore provides quality tools to advance your epigenetics research. Epigenetics can help describe how the environment influences gene expression, and has become an area of great interest and research. EMD Millipore is helping scientists understand epigenetic mechanisms by offering solutions to advance research with validated antibodies, potent small molecules, kits and assays to study:

- Histones and modified Histones
- Chromatin Associated Proteins
- Transcription Factors
- RNA Binding Proteins
- DNA Methylation
- DNA Structure
- DNA Damage and Repair
- Cell Cycle Proteins

Died 1992 A.D.

1931 A.D.

Born 1902 A.D.

# August

“If you know you are on the right track, if you have this inner knowledge, then nobody can turn you off... no matter what they say.”

-Barbara McClintock

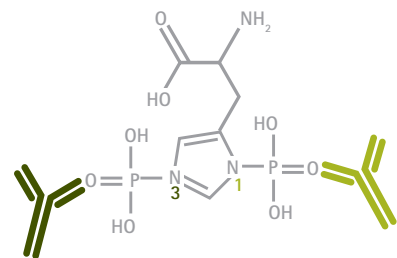
▶ TECHNOLOGY HIGHLIGHT

## Signaling Antibodies

EMD Millipore's validated antibodies for proteins and their specific post-translational modifications (PTMs) give you the assurance you require for your Signaling research.

Our Clone 4G10® has been the gold-standard for phosphotyrosine detection. Now, we bring you new antibodies that let you detect phospho-Histidine. These new antibodies not only let you detect pHis, they allow you to differentiate between the N1 and the N3 histidine phosphorylation. Developed by Dr. Tony Hunter and his team at the Salk Institute for Biological Studies, EMD Millipore has licensed the technology and has made these antibodies available to the research community.

[www.emdmillipore.com/signaling](http://www.emdmillipore.com/signaling)



Detect N1 and the N3 histidine phosphorylation with our new Anti-phosphohistidine Antibodies!

| SUNDAY  | MONDAY | TUESDAY | WEDNESDAY | THURSDAY       | FRIDAY | SATURDAY   |
|---|--------|---------|-----------|----------------|--------|--|
| JULY  |        |         |           |                |        |  |
| S   | M      | T       | W         | T              | F      | S  |
|   |        |         |           |                | 1      | 2  |
| 3   | 4      | 5       | 6         | 7              | 8      | 9  |
| 10  | 11     | 12      | 13        | 14             | 15     | 16   |
| 17  | 18     | 19      | 20        | 21             | 22     | 23   |
| 24  | 25     | 26      | 27        | 28             | 29     | 30   |
| 31  | 1      | 2       | 3         | 4              | 5      | 6  |
| 7   | 8      | 9       | 10        | Mountain Day   | 11     | 12   |
| 7th International Crop Science Congress • Beijing, China (14th-19th)                      |        |         |           |                |        |  |
| 14  | 15     | 16      | 17        | Raksha Bandhan | 18     | 19   |
| ISME16 - 16th International Symposium on Microbial Ecology • Montreal, Canada (21st-26th) |        |         |           |                |        |  |
| International Congress of Immunology (ICI) 2016 • Melbourne, Australia (21st-26th)        |        |         |           |                |        |  |
| 21  | 22     | 23      | 24        | 25             | 26     | 27   |
| 16th European Microscopy Congress • Lyon, France (28th-Sept2nd)                           |        |         |           |                |        |  |
| 18th World Congress of Psychophysiology • Havana, Cuba (31st-Sept4th) ▶                   |        |         |           |                |        |  |
| 28  | 29     | 30      | 31        | 1              | 2      | SEPTEMBER<br>S M T W T F S<br>1 2 3<br>4 5 6 7 8 9 10<br>11 12 13 14 15 16 17<br>18 19 20 21 22 23 24<br>25 26 27 28 29 30 |



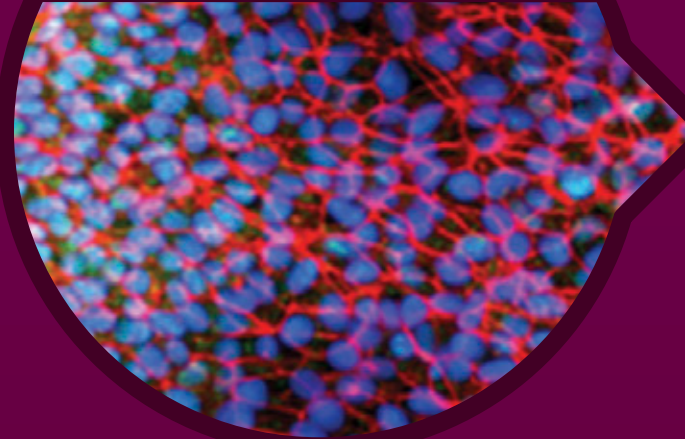
Suit(Ab)le Antibodies

We're selective. We're specific. We're scientists.

We create the antibodies that are most relevant for today's research needs.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)

Epifluorescent analysis of undifferentiated H9 human embryonic stem cells using Anti-Rex-1 (Catalog No. ABD99, green). Nuclei are stained with DAPI (blue) and actin is shown in red.



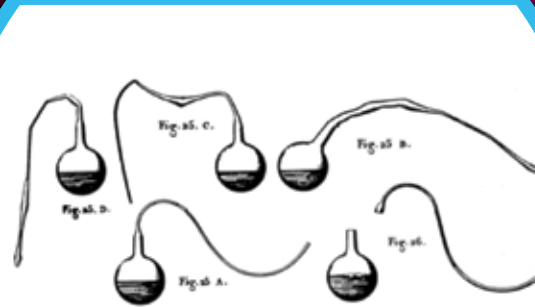
# Fermentation

## Founder

Louis Pasteur

French microbiologist who advanced vaccine science and also unequivocally proved that microorganisms could not proliferate in a sterile, uninoculated solution. As a corollary, he proved that destroying microorganisms (by "Pasteurization") could prevent spoiling of beverages and other products. His work saved wine, beer, and silk industries in France and saved lives around the world.

Bottle en col de cygne (swan neck duct) used by Pasteur that allowed him to refute the theory of spontaneous generation.



# 2016

EMD Millipore provides effective solutions to enable your cell culture and analysis efforts. From cell cultureware to media and supplements, from validated antibodies and potent small molecules to biochemicals and reagents, from kits and assays to platforms that make analysis easy—everything you need to advance your life science research is here.

Cell culture and analysis solutions to transform your research:

- Stericup® Vacuum Driven Sterile Filters
- Sterile Millex® Syringe Filters
- Millicell® Inserts, Plates, EZ SLIDES
- MultiScreen® Plates
- Tissue Culture Treated Plates
- Millicell®  $\mu$ -Angiogenesis Assay Kits
- Millicell®  $\mu$ -Migration Assay Kit
- AXIS® Axon Isolation Device
- Human and Rodent Cells
- Stem Cells (Human and Rodent)
- Cell Culture Media, Supplements, and Reagents

Died 1895 A.D.

1857 A.D.

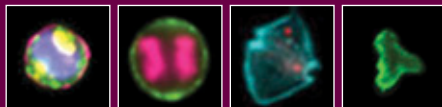
Born 1822 A.D.

“Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world.”  
-Louis Pasteur

# September

▶ TECHNOLOGY HIGHLIGHT

## Amnis® Imaging Flow Cytometers



Amnis® imaging flow cytometers (IFC) are the first instruments to integrate microscopy into flow, combining the advantages of visual data and morphological quantitation with unparalleled sensitivity in cytometry. With up to 12 channels for every cell or event acquired, Amnis® instruments provide stunning images with the statistical robustness from sampling thousands of cells that only flow cytometry can offer. To date, nearly 600 papers have been published on the strength of IFC data generated on the FlowSight® and ImageStream®<sup>×</sup> instruments, in publications as diverse as Cell, Nature, Science, and Blood.

[www.emdmillipore.com/flowcytometry](http://www.emdmillipore.com/flowcytometry)



| SUNDAY   | MONDAY           | TUESDAY  | WEDNESDAY | THURSDAY  | FRIDAY | SATURDAY |
|--|------------------|--|-----------|---|--------|----------|
| AUGUST<br>S M T W T F S<br>1 2 3 4 5 6<br>7 8 9 10 11 12 13<br>14 15 16 17 18 19 20<br>21 22 23 24 25 26 27<br>28 29 30 31 |                  | OCTOBER<br>S M T W T F S<br>1<br>2 3 4 5 6 7 8<br>9 10 11 12 13 14 15<br>16 17 18 19 20 21 22<br>23 24 25 26 27 28 29<br>30 31 |           | ◀ 18th World Congress of Psychophysiology • Havana, Cuba (31st-Sept4th) ▶                       |        |          |
| ◀ 18th World Congress of Psychophysiology Havana, Cuba (31st-Sept4th)  |                  | EMBO   EMBL Symposium: Actin in Action: From Molecules to Cellular Functions • Heidelberg, Germany (7th-10th)                  |           |   |        |          |
| 4  | Labor Day (US) 5 | 6  | 7         | 8   | 9      | 10       |
| 11   | Eid ul-Adha 12   | 13   | 14        | Mid-Autumn Festival 15 ●  | 16     | 17       |
| ◀ National Society of Histotechnology (42nd Annual Symposium) • Long Beach, CA, USA (16th-21st)                            |                  |  |           | National Society of Histotechnology (42nd Annual Symposium) • Long Beach, CA, USA (16th-21st) ▶ |        |          |
| Human Proteome Organization (HUPO) World Congress • Taipei, Taiwan (18th-22nd)   |                  |  |           |   |        |          |
| 18   | 19               | 20   | 21        | Fall Equinox 22   | 23     | 24       |
| Cell Symposium: 10 years of iPSCs • Berkeley, CA, USA (25th-27th)  |                  |  |           |   |        |          |
| 25   | 26               | 27   | 28        | 29  | 30     | 1        |

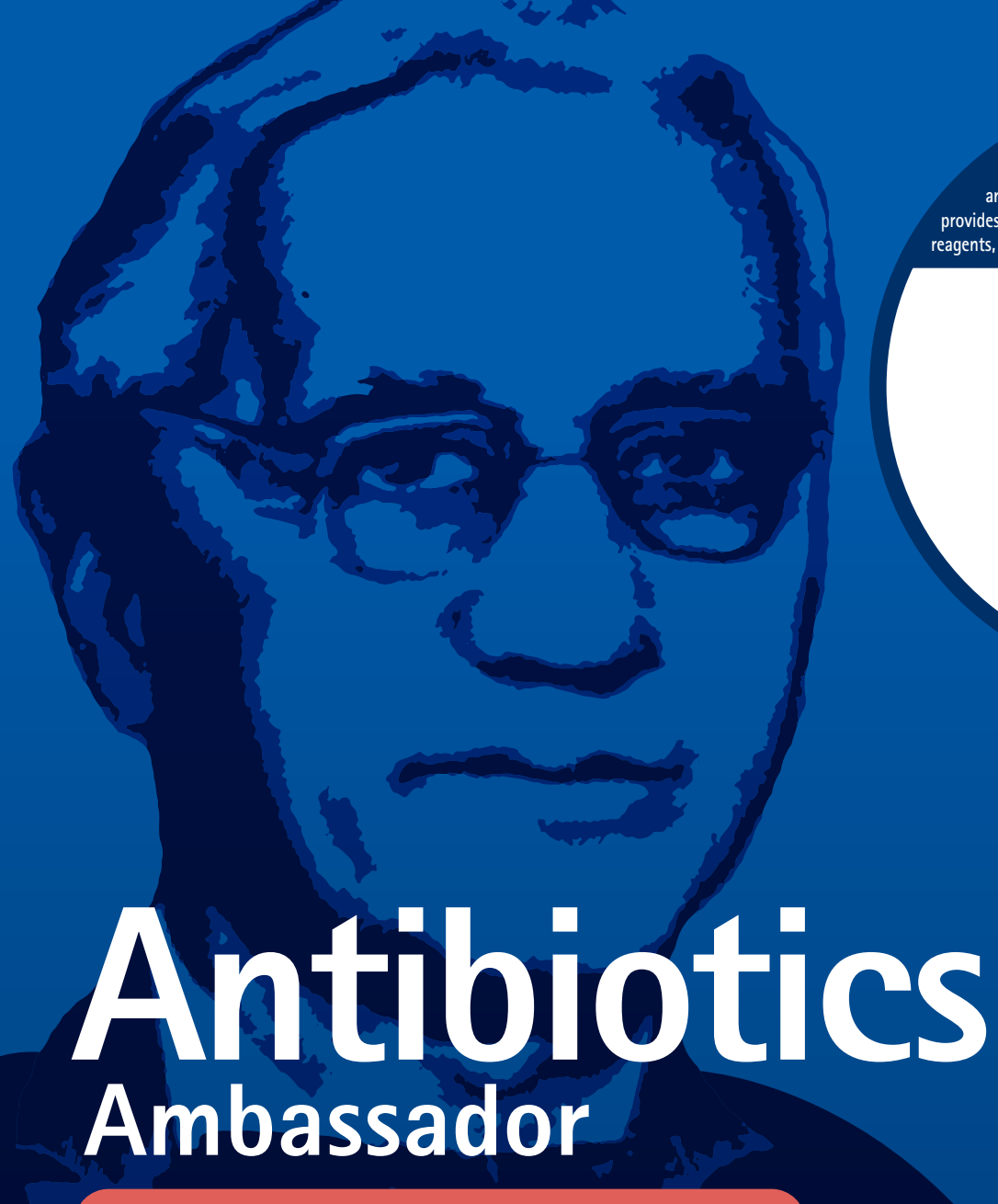


## Verifi(Ab)le Antibodies

Lot to lot. Experiment to experiment.

Our Anti-Fail testing guidelines meet your most demanding expectations.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)



# Antibiotics Ambassador

## Alexander Fleming

Scottish scientist who helped launch the modern use of antibiotics when he accidentally discovered penicillin. Undiscouraged by how difficult it was to mass-produce, Fleming cultured the *Penicillium* mold himself for 12 years before chemists could develop a production scheme. Today, penicillin is an essential component of many tissue cultures, to prevent mold contamination.

Research essential biochemicals, such as buffers, detergents, stains, and substrates, are indispensable for any life science research laboratory. EMD Millipore provides well-documented, well-characterized, and highly cited reagents, such as our most popular selection agent, G418 Sulfate.



The dissolution of staphylococcal colonies in the neighborhood of a penicillium colony, as observed by Fleming.



# 2016

EMD Millipore is your go-to source for pure, potent, preferred Small Molecules and Biochemicals to advance your life science research. Our Calbiochem® brand of high quality small molecules, including inhibitors, activators, agonists, antagonists, enable you to study cell signaling and other mechanisms that control cell fate, function, and phenotype. Our small molecules have been cited in thousands of peer-reviewed publications.

Choose from a wide selection, including small molecules for:

- Kinases and Phosphatases
- Cell Health
- Proteases
- Neurodegeneration
- Oxidative Stress and much more.

In addition we offer:

- InhibitorSelect™ Libraries
- InSolution™ Inhibitors
- InhibitorSelect™ Signaling Pathway Panels
- Protease Inhibitor Cocktails
- Phosphatase Inhibitor Cocktails

Died 1955 A.D.

1928 A.D.

Born 1881 A.D.

# October

“I have been trying to point out that in our lives chance may have an astonishing influence and, if I may offer advice to the young laboratory worker, it would be this – never to neglect an extraordinary appearance or happening.”  
–Alexander Fleming

▶ TECHNOLOGY HIGHLIGHT

## Stericup® filter

There's only one.  
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.

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

View performance data and place an order for the one and only true Stericup® filter at: [www.emdmillipore.com/oneStericup](http://www.emdmillipore.com/oneStericup)



| SUNDAY   | MONDAY  | TUESDAY | WEDNESDAY   | THURSDAY | FRIDAY | SATURDAY |  |
|--|---|---------|---|----------|--------|----------|--|
| SEPTEMBER<br>S M T W T F S<br>1 2 3<br>4 5 6 7 8 9 10<br>11 12 13 14 15 16 17<br>18 19 20 21 22 23 24<br>25 26 27 28 29 30 | NOVEMBER<br>S M T W T F S<br>1 2 3 4 5<br>6 7 8 9 10 11 12<br>13 14 15 16 17 18 19<br>20 21 22 23 24 25 26<br>27 28 29 30 |         |   |          |        | 1        |  |
|  |   |         | EMBO   EMBL Symposium: Complex Life of mRNA • Heidelberg, Germany (5th-8th) |          |        |          |  |
| 2  | Rosh Hashana 3  | 4       | 5   | 6        | 7      | 8        |  |
| 9  | Columbus Day (US)<br>Thanksgiving Day (CAN) 10  | 11      | Yom Kippur 12   | 13       | 14 ●   | 15       |  |
|  |   |         | 6th European Congress of Virology • Hamburg, Germany (19th-22nd)            |          |        |          |  |
| 16   | 17  | 18      | 19  | 20       | 21     | 22       |  |
| 23   | 24  |         |   |          |        |          |  |
| Diwali 30  | Halloween 31  | 25      | 26  | 27       | 28     | 29       |  |



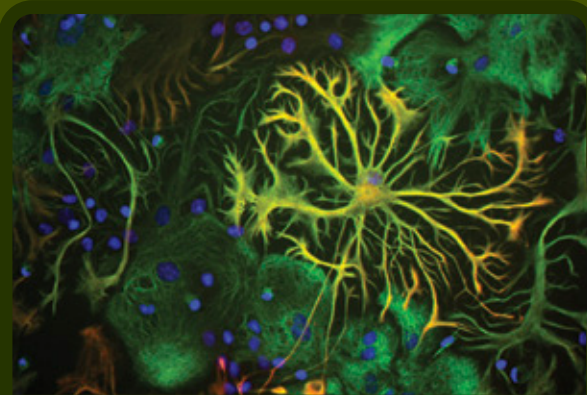
**Reput(Ab)le Antibodies**  
We're validated. We're guaranteed. We're published.  
We create the antibodies most cited by the research community.

[www.emdmillipore.com/Ab](http://www.emdmillipore.com/Ab)

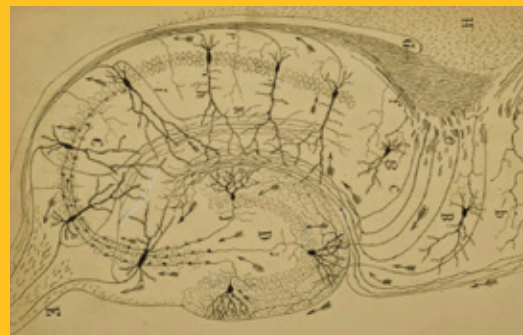
# Father of Neuroscience

## Santiago Ramón y Cajal

Spanish pathologist and neuroscientist who is best known for his detailed drawings of brain structures. Using advanced staining methods, Ramón y Cajal was able to discern previously unresolved structures, such as the axonal growth cone and interstitial cells. Less known are his works on parapsychology and hypnosis. Ramón y Cajal won the Nobel Prize in 1906.



Hippocampal rat glial cells stained with Anti-GFAP (Catalog No. AB5541, red) and Anti-Vimentin (Catalog No. AB5733, green). Nuclei are stained blue.



Drawing of pyramidal neurons in the hippocampus of a small mammal by Santiago Ramón y Cajal, c1901.

# 2016

EMD Millipore provides quality tools to advance your neuroscience research. Whether you are studying development, differentiation, or degeneration, look to us for the right tools, including antibodies, small molecule inhibitors, agonists and antagonists, characterization kits, outgrowth assays, growth factors, cultureware and media, and much more.

Advance your neuroscience research with validated antibodies and potent small molecules to targets such as:

- Differentiated Neurons
- Astrocytes and Microglia
- Synapse and Structure proteins
- Neural Stem Cells
- Transmitters, Ion Channels, Receptors, and Transporters
- Neurotrophic Factors, such as NGF
- Sensory Systems, including Pain and Vision
- Neurodegenerative Disease markers
- Oxidative Stress proteins and molecules

Died 1934 A.D.

1901 A.D.

Born 1852 A.D.



# November

“Any man could, if he were so inclined, be the sculptor of his own brain.”

-Santiago Ramón y Cajal

▶ TECHNOLOGY HIGHLIGHT

## Neuroscience Antibodies

EMD Millipore's solutions for neuroscience research include specific, validated, published antibodies for targets related to:

- Synapses, Neurons, and Glia
- Neural Stem Cell Markers
- Neurotrophic Factors
- Neurite Outgrowth
- Transmitters and Receptors
- Ion Channels and Transporters
- Sensory Systems and Control
- Oxidative Stress
- Neurodegenerative Disease and more.

EMD Millipore has the antibodies you need to potentiate your neuroscience research.

[www.emdmillipore.com/antibodies](http://www.emdmillipore.com/antibodies)



| SUNDAY  | MONDAY              | TUESDAY | WEDNESDAY         | THURSDAY              | FRIDAY        | SATURDAY |
|---|---------------------|---------|-------------------|-----------------------|---------------|----------|
| OCTOBER   |                     |         |                   |                       |               |          |
| S   | M                   | T       | W                 | T                     | F             | S        |
|   |                     |         |                   |                       |               | 1        |
| 2   | 3                   | 4       | 5                 | 6                     | 7             | 8        |
| 9   | 10                  | 11      | 12                | 13                    | 14            | 15       |
| 16  | 17                  | 18      | 19                | 20                    | 21            | 22       |
| 23  | 24                  | 25      | 26                | 27                    | 28            | 29       |
| 30  | 31                  |         |                   |                       |               |          |
|   |                     | 1       | 2                 | 3                     | 4             | 5        |
| Bacterial Protein Secretion Conference • Tampa, Florida, USA (5th-8th)              |                     |         |                   |                       |               |          |
| Society for Neuroscience 2016 Annual Meeting (SFN) San Diego, CA, USA (12th-16th)   |                     |         |                   |                       |               |          |
| Daylight Savings Time Ends (US)   | 6                   | 7       | Election Day (US) | 8                     | 9             | 10       |
|   |                     |         |                   |                       | Veteran's Day | 11       |
|   |                     |         |                   |                       |               | 12       |
| Society for Neuroscience 2016 Annual Meeting (SFN) • San Diego, CA, USA (12th-16th) |                     |         |                   |                       |               |          |
|   |                     |         |                   |                       |               |          |
| 13  | Guru Nanak Birthday | 14      | 15                | 16                    | 17            | 18       |
|   |                     |         |                   |                       |               |          |
| 2016 Sleep Summit • London, UK (22nd-24th)  |                     |         |                   |                       |               |          |
|   |                     |         |                   |                       |               |          |
| 20  | 21                  | 22      | 23                | Thanksgiving Day (US) | 24            | 25       |
|   |                     |         |                   |                       |               | 26       |
| Materials Res. Society Fall Meeting • Boston, MA, USA (27th-Dec2nd)                 |                     |         |                   |                       |               |          |
|   |                     |         |                   |                       |               |          |
| 27  | 28                  | 29      | 30                | 1                     | 2             |          |
| DECEMBER  |                     |         |                   |                       |               |          |
| S M T W T F S   |                     |         |                   |                       |               |          |
| 1 2 3   |                     |         |                   |                       |               |          |
| 4 5 6 7 8 9 10  |                     |         |                   |                       |               |          |
| 11 12 13 14 15 16 17  |                     |         |                   |                       |               |          |
| 18 19 20 21 22 23 24  |                     |         |                   |                       |               |          |
| 25 26 27 28 29 30 31  |                     |         |                   |                       |               |          |



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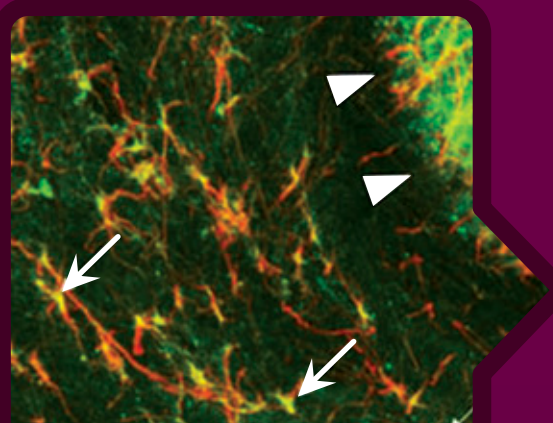
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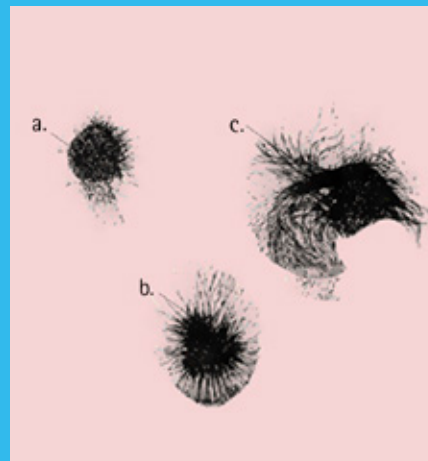
# Neurobiology Advancer

## Rita Levi-Montalcini

Italian-American neurologist who discovered nerve growth factor (NGF), a small secreted protein that regulates neuron survival. In spite of World War II-era anti-Semitic policies that barred her from university employment, Levi-Montalcini conducted chicken embryo studies in her bedroom, and eventually ended up at Washington University in St. Louis, MO, USA, where she isolated NGF and studied its effects on tumors. She was awarded the Nobel Prize in 1986.



Anti-Nerve Growth Factor, pro (Catalog No. AB5583, green) reveals staining in astrocytes of the upper corpus callosum (arrows) and in periventricular cells (white triangles) in rat brain sections.



Levi-Montalcini's drawings illustrating the *in vitro* "halo" effect on 8-day chick embryo sensory ganglia cultured in the presence of fragments of mouse sarcoma 180 for 24 hours (b) or 48 hours (c).

# 2016

EMD Millipore provides quality tools to advance your signaling research, whether you are studying the role of growth factors on neuronal development or the influence of phosphorylation on receptors. We offer a wide selection of antibodies, small molecule inhibitors, kinases, phosphatases, ELISA kits, activity assays, and much more.

Advance your signaling research with validated antibodies and potent small molecules to targets such as:

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- Cytokines
- Chemokines
- Protein Kinases
- Lipid Signaling proteins
- Calcium Signaling proteins
- G-proteins
- Small GTPases
- Nuclear Signaling proteins
- Transcriptional and Post-transcriptional Regulators
- Post Translational Modifications (PTMs)

Died 2012 A.D.

1952 A.D.

Born 1909 A.D.

# December

“Above all, don't fear difficult moments. The best comes from them.”

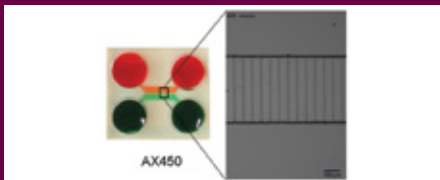
-Rita Levi-Montalcini

▶ TECHNOLOGY HIGHLIGHT

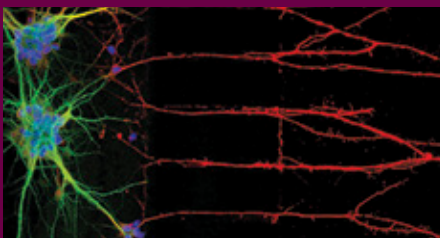
## AXIS<sup>®</sup> Axon Isolation Device

The AXIS<sup>®</sup> device is a unique, easy to use, slide-mounted microfluidic platform that allows culture, regulation, and directional differentiation of neuronal cells via a system of growth chambers and interconnected channels. AXIS<sup>®</sup> devices physically isolate developing neurites from each other and their respective neural cell bodies.

[www.emdmillipore.com/axis](http://www.emdmillipore.com/axis)



AXIS<sup>®</sup> device with colored dyes added to the wells. A higher magnification image of a portion of the microgroove area is shown to the right. Devices are available with 150 μm and 450 μm (shown) long microgrooves.



Confocal micrograph of immunocytochemistry staining of mouse Balb/c P3 mixed cortical neuron culture grown on 150 μm Plasma Bonded AXIS<sup>®</sup> device (Catalog No. AX15005PBC).

| SUNDAY  | MONDAY   | TUESDAY | WEDNESDAY          | THURSDAY  | FRIDAY | SATURDAY  |
|---|--|---------|--------------------|---|--------|---|
| NOVEMBER<br>S M T W T F S<br>1 2 3 4 5<br>6 7 8 9 10 11 12<br>13 14 15 16 17 18 19<br>20 21 22 23 24 25 26<br>27 28 29 30 | JANUARY 2017<br>S M T W T F S<br>1 2 3 4 5 6 7<br>8 9 10 11 12 13 14<br>15 16 17 18 19 20 21<br>22 23 24 25 26 27 28<br>29 30 31 |         |                    |   |        | 2016 American Society for Cell Biology Annual Meeting (ASCB) San Francisco, CA, USA (3rd-7th) |
|   |  |         |                    | 1   | 2      | 3   |
| 2016 American Society for Cell Biology Annual Meeting (ASCB) • San Francisco, CA, USA (3rd-7th)                           |  |         |                    | Memory Mechanisms in Health and Disease • St. Pete Beach, FL, USA (5th-8th) |        |   |
| 4   | 5  | 6       | 7                  | 8   | 9      | 10  |
| 11  | Eid Milad-un-Nabi 12   | 13      | 14                 | 15  | 16     | 17  |
| 18  | 19   | 20      | Winter Solstice 21 | 22  | 23     | Christmas Eve 24  |
| Christmas Day<br>First day of Hanukkah 25   | Boxing Day 26  | 27      | 28                 | 29  | 30     | New Year's Eve 31   |



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# Great scientists to inspire you throughout the year!

## 2016

### Microbiology Master

**Antonie van Leeuwenhoek**

Dutch cloth merchant who initially developed powerful microscopes for counting fabric. He was the first to describe single-celled organisms, which he called "animalcules". He has letters to the Royal Society of London. Thanks to his many and meticulous reports, Leuwenhoek's work was widely read and ultimately respected.

Died 1723 A.D.

Born 1632 A.D.

1671 A.D.

## 2016

### Tissue Culture Trailblazer

**Ross Granville Harrison**

British embryologist who first demonstrated that animal tissues, when fed the foundation for modern cell culture by being the first to demonstrate that tissue cultured in this way would differentiate depending on the composition of the surrounding fluid. Harrison's research paved the way for the development of cell culture techniques used in modern biology.

Died 1959 A.D.

Born 1870 A.D.

1910 A.D.

## 2016

### Stress Detector

**Hans Selye**

Canadian endocrinologist who first described the biological stress response, including the role of the hypothalamus and pituitary gland in the release of stress hormones. He coined the term "stress" and introduced the concept of the "General Adaptation Syndrome" (GAS).

Died 1982 A.D.

Born 1907 A.D.

1936 A.D.

## 2016

### X-ray Crystallography Expert

**Dorothy Crowfoot Hodgkin**

British biochemist who, together with John Kendrew, determined the first x-ray crystallographic structure of a complex biological molecule, the structure of penicillin, in 1945, and insulin, in 1969. She was the first woman to win the Nobel Prize in Chemistry (jointly with Maurice Wilkins and James Watson).

Died 1994 A.D.

Born 1910 A.D.

1945 A.D.

## 2016

### Vaccine Vanguard

**Edward Jenner**

Although "vaccination" (against rabies) was named after him, Jenner is best known for his discovery that cowpox virus is a safe and effective method of conferring immunity to smallpox. He was the first to demonstrate that cowpox virus is a safe and effective method of conferring immunity to smallpox. He was the first to demonstrate that cowpox virus is a safe and effective method of conferring immunity to smallpox.

Died 1823 A.D.

Born 1749 A.D.

1798 A.D.

## January

Request (AB) Antibiotics: We're validated. We're guaranteed. We're published. We cover the antibodies most cited by the research community. [www.emdmillipore.com](http://www.emdmillipore.com)

| Product                           | January | February | March | April | May | June | July | August | September | October | November | December |
|-----------------------------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|
| Scepter 2.0 Portable Cell Counter |         |          |       |       |     |      |      |        |           |         |          |          |
| Proteinase K                      |         |          |       |       |     |      |      |        |           |         |          |          |
| ...                               |         |          |       |       |     |      |      |        |           |         |          |          |

## 2016

### Godfather of Genetics

**Gregor Johann Mendel**

Austro-Hungarian monk and scientist who first described the laws of inheritance. He is considered the father of modern genetics.

Died 1905 A.D.

Born 1822 A.D.

1866 A.D.

## 2016

### Microscopy Maestro

**Robert Hooke**

English natural philosopher, architect, and astronomer who first used the word "cell" to describe a unit of life. He was the first to describe the structure of cork, and he is credited with the discovery of the cell wall.

Died 1703 A.D.

Born 1635 A.D.

1665 A.D.

## 2016

### Cytogenetics Innovator

**Giuseppe Mendel**

American geneticist who first proposed the idea of genes being linked because they were physically close to each other on the chromosome. She was the first to show that homologous chromosomes are linked to form a chromosome complex during meiosis. Mendel's discovery of transposable elements earned her the Nobel Prize in 1982.

Died 1992 A.D.

Born 1902 A.D.

1931 A.D.

## 2016

### Fermentation Founder

**Louis Pasteur**

French microbiologist who advanced vaccine science and the concept of pasteurization. He is credited with the discovery of the microorganism that causes fermentation and other products. His work laid the foundation for modern microbiology and immunology.

Died 1895 A.D.

Born 1822 A.D.

1857 A.D.

## 2016

### Antibiotics Ambassador

**Alexander Fleming**

Scottish scientist who helped launch the modern use of antibiotics when he accidentally discovered penicillin. Discovered by him, penicillin is now the most widely used antibiotic in the world.

Died 1955 A.D.

Born 1881 A.D.

1928 A.D.

## 2016

### Father of Neuroscience

**Santiago Ramón y Cajal**

Spanish pathologist and anatomist who is best known for his detailed drawings of the brain. He is considered the father of modern neuroscience.

Died 1934 A.D.

Born 1852 A.D.

1901 A.D.

## 2016

### Neurobiology Advancer

**Rita Levi-Montalcini**

Italian-American neurologist who discovered the growth factor (GF) in a small amount of protein. She is credited with the discovery of the growth factor and its role in the development of the nervous system.

Died 2012 A.D.

Born 1909 A.D.

1952 A.D.

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