



ALS Research Forum e-Newsletter Vol. 178

August 2, 2017

Visit the [ALS Research Forum](#) to read the complete stories featured in this e-newsletter. Friends and colleagues can sign up for the newsletter [here](#). Follow us on [Facebook](#) and [Twitter](#) for the latest updates.

Research News

[Powering Ahead Targeting Mitochondria in ALS](#)

Mitochondria malfunction in ALS. But therapies targeting these cellular powerhouses have yet to exhibit significant therapeutic benefit. In this feature, experts weigh in on the role of mitochondria in ALS and why it is so challenging to target them in people with the disease.

Check out [this feature](#) to learn more about mitochondria-targeted drugs soon to be tested in the clinic, including Amylyx's AMX0035.

[TGF- \$\beta\$ 1: ALS Astrocytes' Secret Sauce?](#)

Astrocytes may destroy motor neurons in at least some forms of ALS. But how these key cells kill motor neurons remains unknown. Now, a research team led by Harvard University's **Qiao Zhou** in Massachusetts report that reactive astrocytes promote the destruction of motor neurons in co-culture by secreting TGF- β 1. The findings build on previous work led by Nagoya University's **Koji Yamanaka** in Japan, which found that the progression of ALS may be mediated by a TGF- β 1-mediated mechanism (see [April 2015](#) news). The study is published on June 29 in *Stem Cell Reports*.

[Astrocytes in ALS: A Toxic Withdrawl?](#)

Astrocytes keep motor neurons healthy and protect them from glutamate-induced excitotoxicity. But according to recent studies led by University College London's **Rickie Patani** and **Sonia Gandhi** in England, astrocytes may fail to support them (see [June 2017](#) news). The findings suggest that astrocytes may contribute to ALS by both cell autonomous and non-cell autonomous mechanisms in at least one form of the disease. In this feature, experts weigh in on the emerging role of astrocytes in ALS and how to leverage these findings to discover new therapies for sporadic ALS.

Check out [this feature](#) to learn more about astrocytes in ALS, including potential strategies to "replace" them in the disease.

[TMEM106B and Progranulin Duke It Out at the Lysosome](#)

Changes in TMEM106B protect people harboring C9orf72 repeat expansions or

progranulin deficiency from developing frontotemporal dementia (FTD). But how these genetic changes help fend off the disease remains unclear. Now, a research team led by Yale's **Stephen Strittmatter** in Connecticut report that eliminating TMEM106B in PGRN knockout mice results in part, in the restoration of near physiological levels of key lysosomal enzymes. The findings add to growing evidence that lysosomes may play a key role in FTD and targeting them may be a potential approach to treat the disease. The study is published on July 19 in *Neuron*.

[C9ORF72 Throws a Wrench into DNA Repair Machinery](#)

DNA damage may contribute to neurotoxicity in the most common known cause of ALS according to a new study published on July 17 in *Nature Neuroscience*. The study, led by University of Sheffield's **Mimoun Azzouz** and **Sherif El-Khamisy** in England, found that expanded repeats in the C9orf72 gene fold up forming R-loops, triggering the formation of double-strand DNA breaks in the genome. What's more, dipeptide repeat proteins block the repair of these breaks resulting in DNA damage. The findings suggest that unrepaired DNA breaks, which occur due to C9orf72 repeat expansion, may drive, in part, the degeneration of motor neurons in the disease.

Check out [our website](#) to read more of the latest research advances in ALS.

Funding Opportunities:

The Weston Brain Institute is still accepting applications from Canadian scientists to support their postdoctoral FTD research at the University of Oxford. [Click here](#) to learn more.

August 2017

[NeuroNEXT Clinical Trials](#). NIH, NINDS. Application due by **August 3, 2017**.

[Judith and Jean Pape Adams ALS Research Grants](#). Judith and Jean Pape Adams Foundation. Application due by **August 4, 2017**.

NIH Blueprint Neurotherapeutics Network: [Small Molecule Drug Discovery and Development for Disorders of the Nervous System](#). Application due by **August 9, 2017**.

[The Betty Laidlaw MND Research Prize](#). MND Australia. Applications due August 25, 2017.

[MND Research Grants](#). MND Australia. Applications due August 25, 2017.

[Postdoctoral Fellowships](#). MND Australia. Applications due August 25, 2017.

September 2017

[MDA Venture Philanthropy Program](#). Muscular Dystrophy Association. LOI due by September 1, 2017.

[Clinical Research Pilot Grant](#). Association for Frontotemporal Degeneration. Application due by September 8, 2017.

[Basic Research Pilot Grant](#). Association for Frontotemporal Degeneration. Application due by September 8, 2017.

[Research Grants](#). Frick Foundation for ALS Research. Application due by September 30, 2017.

Check out our [updated list](#) of grants and awards.

Job Opportunities:

[Asst., Assoc. or Full Professor, Pharmacology.](#) University of Southern California. Los Angeles, CA.

[Associate Professor, Cognitive Neuroscience.](#) Northwestern University. Chicago, IL.

[Director of Neurodegenerative Research.](#) University of Pennsylvania. Philadelphia, PA.

[Postdoctoral Fellow, Talbot Lab.](#) University of Oxford. Oxford, England.

[Graduate Studentship, Maudsley Lab.](#) VIB. Antwerp, Belgium.

[Graduate Studentship, Basso Lab.](#) University of Trento. Trento, Italy.

[Associate Scientist II,](#) ALS. Biogen. Cambridge, MA.

Hiring someone onto your team? Contact us to add your listing to [our updated job board](#): ALSjobs@prize4life.org.

[Full List of Job Opportunities >>](#)

Upcoming Meetings:

September 2017

September 4-5, 2017. Symposium Latsis: [Degeneration of Neural Circuits.](#) Lausanne, Switzerland.

September 7-9, 2017. Ottawa, Canada. [Ottawa International Conference on Neuromuscular Disease and Biology.](#)

September 16-21, 2017. Kyoto, Japan. [World Congress on Neurology.](#)

September 17-19, 2017. Sitges, Spain. [Neuro-Immune Axis: Reciprocal Regulation in Development, Health and Disease.](#)

October 2017

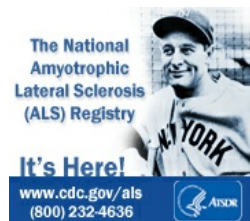
October 3-5, 2017. Clearwater Beach, Florida. [The 16th Northeast ALS Consortium Meeting.](#)
Abstracts due: **August 4.**

November 2017

November 11-15, 2017. Washington, D.C. [Society for Neuroscience Annual Meeting.](#)

Organizing an ALS meeting? Contact us to add your conference to [our updated calendar](#): ALSmeetings@prize4life.org.

[Full List of Upcoming Meetings>>](#)



[Download the Working with ALS Mice Manual Here](#)

STAY CONNECTED:

