



ALS Research Forum e-Newsletter Vol. 191

February 28, 2018

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.

We updated [our database](#) of drug candidates in the ALS pipeline. Explore this resource to learn more about strategies being developed for the disease, including potential therapies currently being tested in the clinic.

Research News

[An Emerging ALS Approach Gains Strength](#)

An emerging therapeutic strategy may help keep muscles stronger longer in ALS according to a new study published on February 20 in *Elife*. The preclinical study, led by New York University's **Steve Burden**, found that treatment with MuSK-boosting antibodies every 24 days after symptom onset (P90) improved diaphragm muscle motor output, reduced motor neuron loss and moderately increased survival of a SOD1 mouse model of the disease. The approach, developed by Genentech in San Francisco, CA, is one of a growing number of strategies that aims to help keep motor neurons and muscle fibers connected by stabilizing neuromuscular junctions (NMJs).

To learn more about this approach and others targeting the NMJ in the ALS pipeline, check out [Meeting ALS At The Junction](#).

[Aged Astrocytes Prime Brain for Neuroinflammation](#)

Aging is becoming increasingly clear to be a key risk factor for ALS. But the reason why most cases of the disease are late-onset, however, remains unclear. Now, researchers at Stanford University in California report that the brain may become more vulnerable to ALS during the aging process, by inciting neuroinflammation- at least in the mouse. The transcriptome analysis, led by the late **Ben Barres**, found that astrocytes in the aged mouse brain resembled A1 astrocytes, the neuro-inflammatory cells the team previously detected in post mortem tissue from patients with five neurodegenerative diseases including ALS (see [January 2017](#), [February 2017](#) news). The report appeared on February 7 in the *Proceedings of the National Academy of Sciences*.

To learn more about A1 astrocytes and their potential role in ALS, check out [Microglia Give Astrocytes The License to Kill](#) and [Microglia May Turn Astrocytes to the Dark Side in ALS](#).

[Lack of C9orf72 Protein Renders Neurons More Vulnerable to](#)

[Neurodegeneration](#)

The loss of the protein C9orf72 plays a role in the most common form of ALS, according to a new study, stoking the debate about how to tackle the disease. The study, led by University of Southern California's **Justin Ichida**, found in part, that the lack of this protein may make motor neurons more vulnerable to ALS by increasing their sensitivity to glutamate-induced excitotoxicity and impairing their ability to destroy DPR aggregates. The analysis, which involved directly "induced motor neurons" (iMNs), opens up the possibility that emerging therapies that remove RNAs and/or DPRs may not be enough to protect neurons against the disease. The study is published on February 5 in *Nature Medicine*.

To learn more about potential therapies for C9orf72 ALS that aim to tackle these challenges, check out [CRISPR: In the Nick of Time for ALS?](#)

[Are Reversible Amyloids Behind Liquid-Liquid Phase Separation?](#)

Researchers may be one step closer to understanding how proteins harden in the cytoplasm of motor neurons in ALS. The study, led by University of California's **David Eisenberg** in Los Angeles, identified specific motifs, known as LARKs, in low-complexity domains of these proteins that facilitate the formation of hydrogels through a cooperative mechanism. The findings may explain how RNA-binding proteins including FUS liquefy and thereby why disrupting them may lead to the disease. The findings appeared on February 9 in *Science*.

[Cancer and Neurodegeneration: Flip Sides of a Coin](#)

People with ALS are less likely to develop cancer ([Gibson et al., 2016](#)). Researchers remain unsure why. But according to a growing number of studies, the answer may lie in their genes. Key changes in the oncoprotein FUS cause ALS (see [Tan and Manley, 2012](#)). And, related "FET" proteins are increasingly implicated in both diseases (see [November 2011](#); [March 2013](#) news). Now, researchers at Christian-Albrechts University in Kiel, Germany report in part, that key immune-associated genes upregulated in neurodegenerative diseases and during normal aging, are downregulated in cancer. The results may help scientists zero in on key mechanisms that contribute to ALS. The study is published on January 20 in *Nature Communications*.

Check out [our website](#) to read more of the latest research advances, including [an enzyme implicated in ALS](#) that may influence proteostasis.

Funding Opportunities:

Applications for the US Department of Defense ALS Therapeutic Development and Idea Awards are anticipated to open in March 2018. Read [this announcement](#) to learn more.

March 2018

[MDA Venture Philanthropy Program](#). Muscular Dystrophy Association. LOI due by **March 1, 2018**.

[Somatic Cell Genome Editing Program Grants](#). NIH. LOI due by **March 3, 2018**.

[Health and Social Care for Neurodegenerative Diseases 2018](#). JPND. Pre-Proposals due by **March 6, 2018**.

[Genomics of Rare Diseases: High-Throughput Sequencing](#). Includes WES, WGS, RNA-seq and ChIP-seq. French Foundation of Rare Diseases. **March 7, 2018**.

April 2018

[Research Grants](#). Potential ALS Therapies: Preclinical to Phase 1. Fight MND. Application due by April 1, 2018.

NEW! [Personalized Medicine](#). ERA PerMed. Eligibility: AT, BE, CA, DE, EE, ES, FI, FR, HR, HU, IE, IL, IT, LU, LV, NL, NO, PL, RO, SI, SE and TR. Pre-Proposals due by April 10, 2018.

NEW! [Early Career Grants](#). Brain Canada & Azrieli Foundation. Application due by April 17, 2018.

NEW! [Ben Barres Early Career Acceleration Awards](#). Chan-Zuckerberg Initiative Neurodegeneration Challenge Network. Applications due by April 17, 2018.

NEW! [Collaborative Science Awards](#). Chan-Zuckerberg Initiative Neurodegeneration Challenge Network. Applications due by April 17, 2018.

[Rapid Response: Canada](#). FTD. Weston Brain Institute. LOIs due by April 19, 2018.

[Rapid Response: Ireland, Netherlands, UK 2018](#). Biomarkers, including FTD. Weston Brain Institute. LOIs due by April 23, 2018.

[Graduate Student Fellowship](#). AFM-Téléthon. Application due by April 24, 2018.

NEW! [Breakthrough Prize](#). [Nominate](#) a scientist by April 30, 2018!

May 2018

NEW! [Graduate Studentships](#). MND Association. Applications due by May 4, 2018.

NEW! [Non-Clinical Fellowships](#). MND Association. Applications due by May 4, 2018.

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

Job Opportunities:

[Director, Neuroscience Research](#). Florey Institute. Melbourne, Australia.

[Director, Neurodegenerative Disease Research](#). Cleveland Clinic. Cleveland, OH.

[Professor, Neurochemistry](#). Stockholm University. Stockholm, Sweden.

[Assistant, Assoc. or Full Professor, Neuroscience](#). Scripps Research Institute. Jupiter, FL.

[Postdoctoral Fellow, Heutink Lab](#). German Center for Neurodegenerative Diseases. Tübingen, Germany.

[Postdoctoral Fellow, Hickman and Shuler Labs](#). University of Central Florida. Orlando, FL.

[Postdoctoral Fellow, Khurana Lab](#). Brigham and Women's Hospital. Boston, MA.

[Postdoctoral Fellow, Meyer Lab](#). Nationwide Children's Hospital. Columbus, OH.

[Research Associate, Meyer Lab](#). Nationwide Children's Hospital. Columbus, OH.

[Medical Director, Denali Therapeutics](#). San Francisco, CA.

[Senior Research Scientist/Research Scientist, Biomarker](#)s. Denali Therapeutics. San Francisco, CA.

[Research Scientist, BrainXell](#). Madison, WI.

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:

Final weeks to get your abstract in for the upcoming Keystone Conference, [Advances in Neurodegenerative Disease Research and Therapy](#). Abstract Deadline: March 15, 2018.

March 2018

March 11-14, 2018. Arlington, VA. [MDA Clinical Conference](#).

March 18-21, 2018. EMBL. Heidelberg, Germany. [Microglia 2018](#).

March 22-24, 2018. Melbourne, Australia. [Australasian Motor Neurone Disease Symposium. Final program](#).

April 2018

April 17-21, 2018. Cold Spring Harbor Laboratory. Cold Spring Harbor, NY. [Protein Homeostasis in Health and Disease](#).

April 21-27, 2018. Los Angeles, CA. [Annual Meeting of the American Academy of Neurology](#).

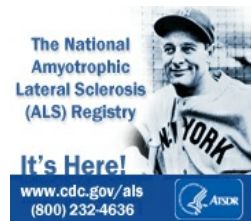
April 30-May 4, 2018. Jackson Laboratory. Bar Harbor, ME. Workshop: [Using Mouse Models to Study Neurodegenerative Disease](#).

May 2018

May 14-17, 2018. EMBL. Heidelberg, Germany. [Cellular Mechanisms Driven by Liquid Phase Separation](#).

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:

