

THE ALS RESEARCH FORUM

Discovering a Common Goal,
Discovering a Cure

PRIZE4LIFE ALS
ASSOCIATION



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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](#).

ALS Research Forum Partnership

We are excited to let you know that under a new partnership between Prize4Life and The ALS Association, the ALS Forum will be expanded to include more news coverage and more content! The site has been renamed The ALS Research Forum, and we will continue to distribute our signature bi-weekly eNewsletter under that name. We thank you for being a part of the ALS Research Forum community, and we look forward to continuing to provide you high quality news and research resources focused on ALS. We welcome your feedback and comments [here](#).

Research News

New Resource: Alzforum ALS Mouse Model Database

New breakthroughs in ALS genetics as well as in technologies for genetic manipulation have led to the development of many new mouse models of ALS. These have greatly expanded the repertoire of models that can be leveraged in fundamental and preclinical studies in ALS beyond the classic models for SOD1-ALS. The Alzforum has just launched a new database summarizing key information about 26 ALS mouse models with mutations in SOD1, TDP-43, C9orf72 and FUS. The database highlights key phenotypic features of each model, and allows for comparisons between the models. Click [here](#) to check it out!

Heart Medication Mends Muscle Cramping in ALS

Mexiletine, a sodium channel blocker currently approved to treat cardiac arrhythmia, may prove useful in attenuating muscle cramping in ALS patients. A persistent problem for over 90% of people with ALS, muscle cramping can impact quality of life and aggravate mobility issues. In a Phase 2 clinical trial led by scientists at the University of Washington in Seattle, treatment with mexiletine drastically diminished both the frequency and severity of cramping. The results have been published Feb 24 in Neurology online. The authors believe the drug may work by decreasing neuronal

hyperexcitability, a notion that that will also be tested in an upcoming trial of retigabine in ALS (see [Jan 2015 news](#)).

[Brain Imaging Could Help Explain Abnormal Eating in FTD Patients](#)

The vast majority of patients with behavioral variant FTD (bvFTD) and semantic dementia (SD), another form of FTD, display abnormal eating behaviors. As reported Jan 25 in JAMA Neurology online, both FTD groups had a striking preference for sucrose, yet people with the bvFTD overate, consuming twice as many calories as healthy controls. Brain imaging studies revealed that in either FTD group, sucrose preference correlated with atrophy of amygdala-inclusive neural network that was not normally associated with FTD. Differences in caloric intake between the bvFTD and semantic dementia patients could be related to some of the disparate brain regions that atrophy in these two groups.

[MHC-I and Sonic Hedgehog Help Neurons and Astrocytes Communicate](#)

Two unexpected proteins have been revealed as crucial players for a healthy relationship between neurons and astrocytes: MHC Class I proteins and Sonic Hedgehog (Shh). In the Feb 29 Nature Medicine online, scientists show that ALS-derived astrocytes attack motor neurons by secreting toxic substances, which lead to decreased neuronal expression of MHC Class I proteins. This in turn leaves the cells even more vulnerable to the impending barrage of pernicious factors from ALS astrocytes. A second study published in the Feb 19 Science, reports on signaling in the other direction, and shows that neuronal secretion of sonic hedgehog (Shh) dynamically drives the specialization of astrocytes, even in the adult brain. These findings point to a new form of cellular plasticity in the adult brain and underscore the important of bi-directional communication between astrocytes and neurons in the brain.

[ApoE2 Allele May Link ALS and FTD](#)

The ApoE2 allele, thought to be protective against Alzheimer's disease, may actually predispose people with ALS to frontotemporal dementia (FTD). As reported in the Feb 22 JAMA Neurology online, researchers at the University of Torino in Italy tested over 300 ALS patients for cognitive impairments. The presence of the ApoE2 allele, as well as the C9ORF72 repeat expansions, were assessed as potential risk factors for FTD. The participants with the ApoE2 allele were more than twice as likely to develop FTD than those without. Though more studies are needed to confirm these results, the findings bring into question the involvement of lipid metabolism in precipitating frontotemporal neurodegeneration.

Assistive Technology

[ALS Assistive Technology Challenge Announces Phase I Winners](#)

The ALS Association and Prize4Life have announced the winners of the First Phase of [The ALS Assistive Technology Challenge](#), a challenge grant program to accelerate development of improved communication technologies for people with ALS. Each of the winning teams will receive a \$50,000 grant to further develop the technology. The challenge now enters its Prize Phase, which will culminate in a \$400,000 prize for the development of flexible, accessible communication technology for people with ALS.

The Prize Phase is open to groups that participated in the first phase, as well as to new participants from academia and industry. Read more about the winning teams [here](#).

Funding Opportunities:

[NCATS Small Business Innovation Research \(SBIR\) and Small Business Technology Transfer \(STTR\) programs](#). Applications due April 5, 2015.

[Department of Defense ALS Research Program \(ALSRP\) Therapeutic Development Award](#). Pre-application due April 14, 2016.

[Department of Defense ALS Research Program \(ALSRP\) Therapeutic Idea Award](#). Pre-application due April 14, 2016.

[ALS Canada Discovery Grants](#). Full application due June 3, 2016.

[All funding opportunities >>](#)

Upcoming Meetings:

April 2016

April 2-6, 2016: Sölden, Austria: [International Neuroscience Winter Conference](#).

April 5-7, 2016: Boston, MA: [BioIT World Conference & Expo](#).

April 6-7, 2016: Boston, MA: [Neurotech Investing and Partnering Conference](#).

June 2016

June 5-9, 2016: Whistler, British Columbia: [Keystone Symposium: Autophagy, Molecular and Physiological Mechanisms](#).

[Full list of upcoming meetings>>](#)

Resources:

[ALS Drugs in Development Database](#)

[ALSGene](#)

[Alzforum ALS Mouse Model Database](#)

[The PRO-ACT Database](#)

[NEALS Biofluid Repository Available to Researchers](#)

[VABBB ALS CNS Tissue Request Information Site](#)

[TargetALS Cores](#)

The National
Amyotrophic
Lateral Sclerosis
(ALS) Registry

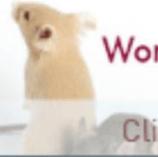


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Working with ALS Mice

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