**PRESS RELEASE**

# PsychoGenics Obtains License to the TgF344-AD Rat Model of Alzheimer's Disease

## Model exhibits oligomeric aβ, amyloid plaques, tau pathology, behavioral impairment, and neuronal loss

Paramus, N.J., March 15, 2018 – PsychoGenics Inc. (PGI) announced today that it obtained a license from the National Institute of Mental Health (NIMH), part of the National Institutes of Health, to the TgF344-AD rat model of Alzheimer's disease (AD). This model expresses mutant human amyloid precursor protein ($APP_{SW}$) and presenilin 1(PS1ΔE9) genes—each independent causes of early-onset familial AD.

This rat model was developed by Prof. Robert Cohen, M.D. and his team while at NIMH. It was generated on a Fischer 344 background by co-injecting rat pronuclei with two mutant human genes (APPsw and PS1ΔE9) driven by the mouse prion promoter. The rats develop the hallmarks of Alzheimer's disease including an age-dependent cerebral amyloidosis with Aβ oligomers and plaques, development of neurofibrillary tangles (NFTs), chronic neuroinflammation, pronounced neuronal loss in the cingulate cortex and hippocampus, reduced norepinephrine levels in the locus coeruleus, and cognitive impairment. The pathological changes progress with age and become pronounced by 16 to 24 months.

The complete AD pathology seen in these rats is reminiscent of human AD and does not appear in comparable mouse models. In particular, the tau pathology, which is not observed in similar mouse models, might be due to an important distinction between tau isoforms expressed in mice and rats. It is important to note, similar to humans, rats have a full tau complement of six tau CNS isoforms whereas mice harbor only three. The presence of neurotoxic oligomeric Aβ may also contribute to the presence of tau pathology and accompanying neuronal loss—making this model ideal to investigate Aβ-mediated tauopathy.

"We are very excited to add the TgF344-AD rat to our portfolio of mouse amyloidosis and tauopathy models. The TgF344-AD rats manifest a complete repertoire of AD pathology not fully recapitulated in comparable mouse models making it the ideal model with a high translational value to support new treatment approaches," remarked Dr. Emer Leahy, President and CEO of PsychoGenics. "Combined with our extensive capabilities including behavioral testing, neurochemistry, molecular and protein biology, electrophysiology, translational EEG, and immunohistochemistry, PGI is well positioned to evaluate important new AD treatments for our clients in this model."

**About PsychoGenics**

PsychoGenics has pioneered the translation of rodent behavioral responses into robust, high throughput, and high content phenotyping. Its drug discovery platforms, SmartCube®, NeuroCube®, and PhenoCube® have been used in shared risk partnerships with major pharma companies such as Sunovion and Roche and has resulted in the discovery of several novel compounds now in clinical trials or advanced preclinical development. PsychoGenics' capabilities also include standard behavioral testing, electrophysiology, translational EEG, molecular biology, microdialysis and quantitative immunohistochemistry. In addition, the company offers a variety of in-licensed transgenic mouse models that support research in areas such as Huntington's disease, autism spectrum disorders, psychosis/schizophrenia, Alzheimer's disease, Parkinson's disease, Spinal Muscular Atrophy (SMA), muscular dystrophy, ALS, and other disorders. For more information on PsychoGenics Inc. visit www.psychogenics.com

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