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**1400 London time (BST) / 0900 US Eastern time Wednesday 22 April
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[Enzyme regulator of attention provides insights into ADHD](#)

DOI: 10.1038/npp.2009.40

Scientists have discovered a key enzyme in the brain of rats that helps regulate attention and hyperactivity. The research could help in the development of new medications for Attention Deficit/Hyperactivity Disorder (ADHD).

Online in the journal *Neuropsychopharmacology*, Bill Carlezon and colleagues selectively disrupted the function of protein kinase-A (PKA) in the prefrontal cortex – a part of the brain associated with decision making. The rats became hyperactive and were unable to pay attention

to hints about how to obtain food. Genetic disruption of a protein which PKA regulates also produced inattention, identifying a pathway within the nerve cells of the prefrontal cortex that might be sluggish in individuals with attention disorders. Additional studies suggested that disruption of PKA did not change the rats' desire for the food, only their ability to pay attention to information needed to obtain it.

Many children struggle with ADHD, a disabling condition that interferes with their ability to focus attention and perform well in school. 'Our hope is that this will lead to the development of medications that have a more narrow range of actions, without producing the side-effects that detract from the actions of current drug treatments,' said Bill Carlezon, senior author on the report.

Author contact:

Bill Carlezon (Harvard Medical School, Belmont, MA)

Tel: +1 617 855 2021; E-mail: bcarlezon@mclean.harvard.edu

Media inquiries relating to McLean Hospital:

Adriana Bobinchock

Tel: +1 617 855 2110; E-mail: abobinchock@partners.org

PRESS CONTACTS

For media inquiries relating to embargo policy for the NPG's Academic Journals:

Neda Afsarmanesh (Nature New York)

Tel: +1 212 726 9231; E-mail: n.afsarmanesh@natureny.com

Ruth Francis (Nature London)

Tel: +44 20 7843 4562; E-mail: r.francis@nature.com

For media inquiries relating to the American College of Neuropsychopharmacology:

Tel: +1 615 324 2360; E-mail: acnp@acnp.org

For Editorial contact relating to Neuropsychopharmacology:

Diane Drexler (Neuropsychopharmacology, Nashville, TN, USA)

Tel: +1 615 324 2371; E-mail: journal@acnp.org

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