

Recent Autism Science

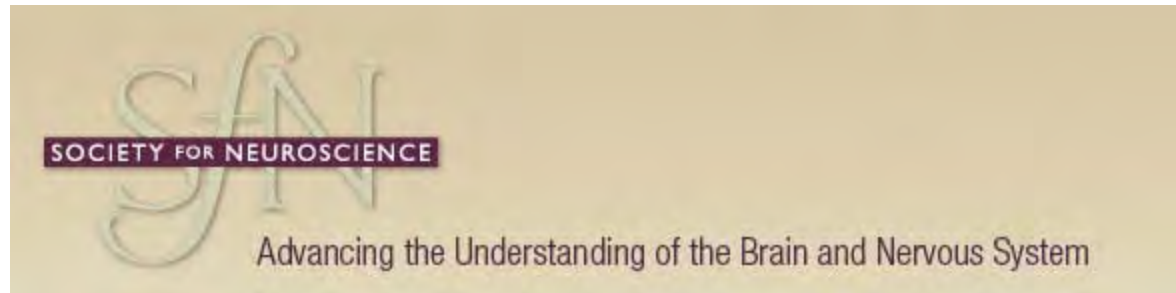
Thomas Insel, M.D.

Chair, IACC

IACC Full Committee Meeting

December 14, 2010

Autism “Hot Topic” at SFN



In 2009: 255 abstracts

In 2010: 337 abstracts
and a public symposium

A Model for Neural Development and Treatment of Rett Syndrome Using Human Induced Pluripotent Stem Cells

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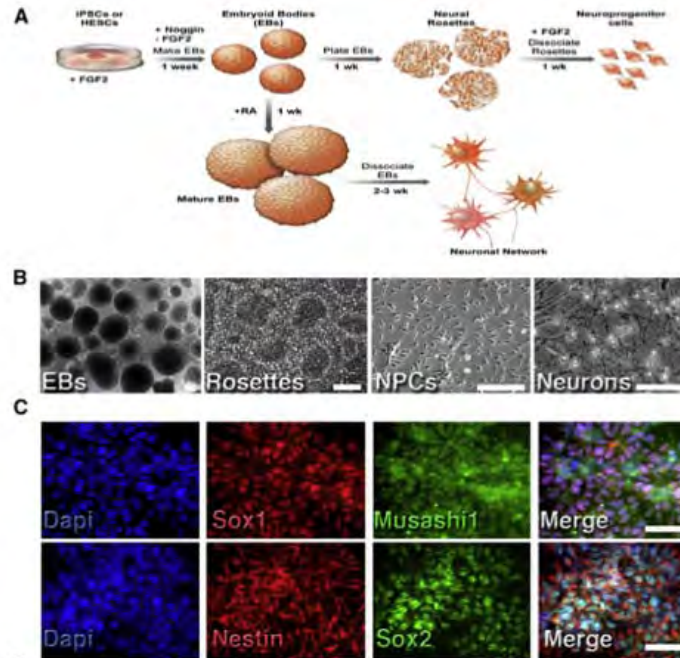
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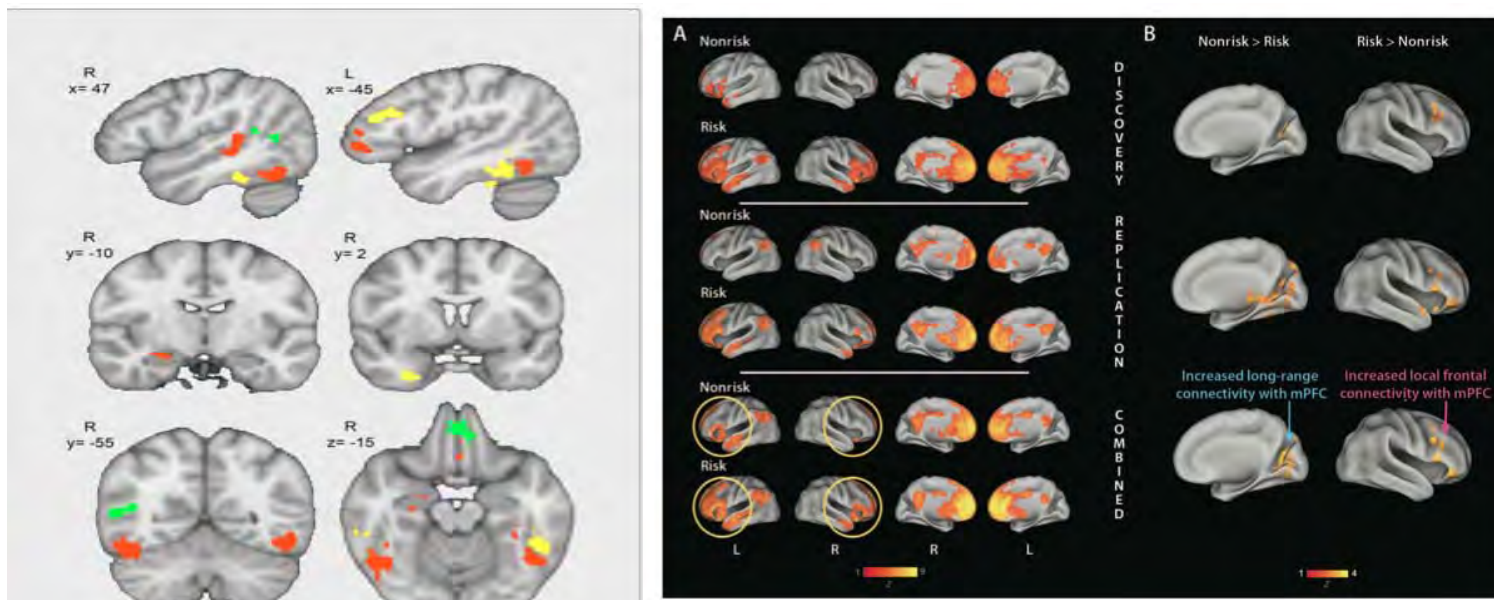
Rescue with
IGF1 and Gentamycin

Neural signatures of autism

PNAS 12/7/10

Martha D. Kaiser^a, Caitlin M. Hudac^a, Sarah Shultz^{a,b}, Su Mei Lee^{a,b}, Celeste Cheung^a, Allison M. Berken^a, Ben Deen^a, Naomi B. Pitskel^a, Daniel R. Sugrue^a, Avery C. Voos^a, Celine A. Saulnier^a, Pamela Ventola^a, Julie M. Wolf^a, Ami Klin^a, Brent C. Vander Wyk^a, and Kevin A. Pelphrey^{a,b,1}

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Altered Functional Connectivity in Frontal Lobe Circuits Is Associated with Variation in the Autism Risk Gene *CNTNAP2*

Ashley A. Scott-Van Zeeland,^{1,2,3} Brett S. Abrahams,^{4*} Ana I. Alvarez-Retuerto,^{4,5} Lisa I. Sonnenblick,⁴ Jeffrey D. Rudie,² Dara Ghahremani,⁶ Jeanette A. Mumford,⁷ Russell A. Poldrack,⁷ Mirella Dapretto,^{5,6,8} Daniel H. Geschwind,^{4,5††} Susan Y. Bookheimer^{1,5,6,7††}

(Published 3 November 2010; Volume 2 Issue 56 56ra80)

Describing the Brain in Autism in Five Dimensions—Magnetic Resonance Imaging-Assisted Diagnosis of Autism Spectrum Disorder Using a Multiparameter Classification Approach

Christine Ecker,¹ Andre Marquand,² Janaina Mourão-Miranda,^{3,4} Patrick Johnston,¹ Eileen M. Daly,¹ Michael J. Brammer,² Stefanos Maltezos,¹ Clodagh M. Murphy,¹ Dene Robertson,¹ Steven C. Williams,³ and Declan G. M. Murphy¹

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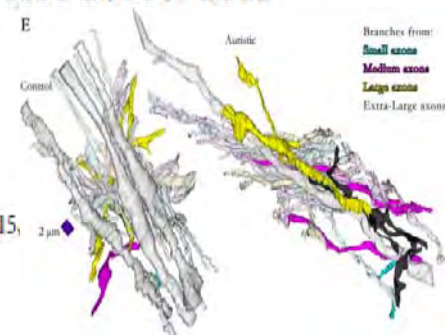
The Journal of Neuroscience, November 3, 2010 • 30(44):14595–14609 • 14595

Neurobiology of Disease

Changes in Prefrontal Axons May Disrupt the Network in Autism

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Mitochondrial Dysfunction in Autism

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Alicja Omanska-Klusek, MS

Catherine Ross-Inta, BS

Sarah Wong, BS

Irva Hertz-Picciotto, PhD

Flora Tassone, PhD

Isaac N. Pessah, PhD

Context Impaired mitochondrial function may influence processes highly dependent on energy, such as neurodevelopment, and contribute to autism. No studies have evaluated mitochondrial dysfunction and mitochondrial DNA (mtDNA) abnormalities in a well-defined population of children with autism.

Objective To evaluate mitochondrial defects in children with autism.

Design, Setting, and Patients Observational study using data collected from patients aged 2 to 5 years who were a subset of children participating in the Childhood Autism Risk From Genes and Environment study in California, which is a population-based, case-control investigation with confirmed autism cases and age-matched, genetically unrelated, typically developing controls, that was launched in 2003 and is still ongoing. Mitochondrial dysfunction and mtDNA abnormalities were evaluated in lymphocytes from 10 children with autism and 10 controls.

 AUTISM SPECTRUM DISORDERS

Parental Autoimmune Diseases Associated With Autism Spectrum Disorders in Offspring

Epidemiology 9/10

*Alexander Keil,^a Julie L. Daniels,^{a,b} Ulla Forssen,^{c,d} Christina Hultman,^e Sven Cnattingius,^f
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PNAS 6/10

Characterization and reversal of synaptic defects in the amygdala in a mouse model of fragile X syndrome

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