

Recent Science Advances

**National Institute on Aging
February 28, 2012**

Pilot Trial of Intranasal Insulin for Alzheimer's and MCI

- Pilot –104 adults with MCI and mild to moderate Alzheimer's; tested placebo, 20 IU insulin, 40 IU insulin for 4 months, administered with nasal drug delivery device
- Results:
 - improved delayed memory in 20 IU group compared with placebo
 - preserved general cognition, activities of daily living for younger participants in both insulin groups
 - caregivers for both insulin groups rated participant functional status higher
 - changes in some biomarkers ($A\beta 42$ and tau to $A\beta 42$ ratio) associated with changes in memory and function



Suzanne Craft et al, *Arch Neurol* 2012 January; 69(1): 29-38



Spread of Tangle Pathology

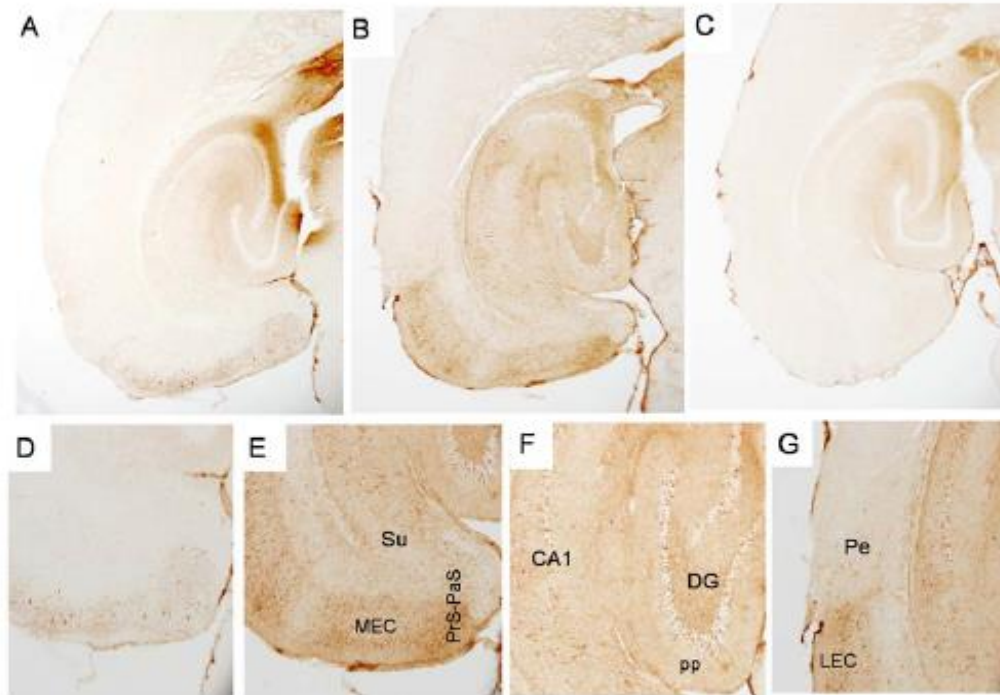
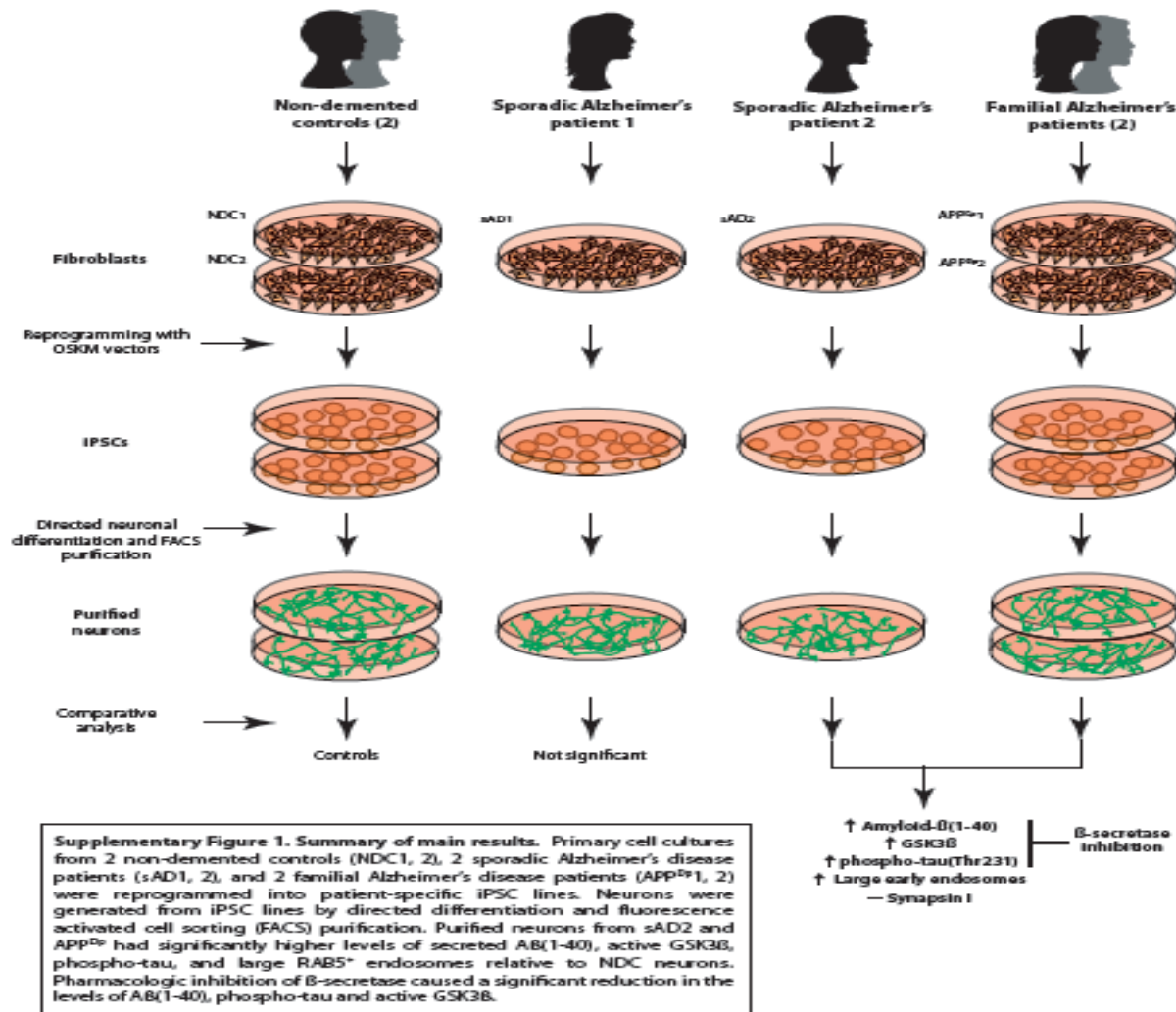
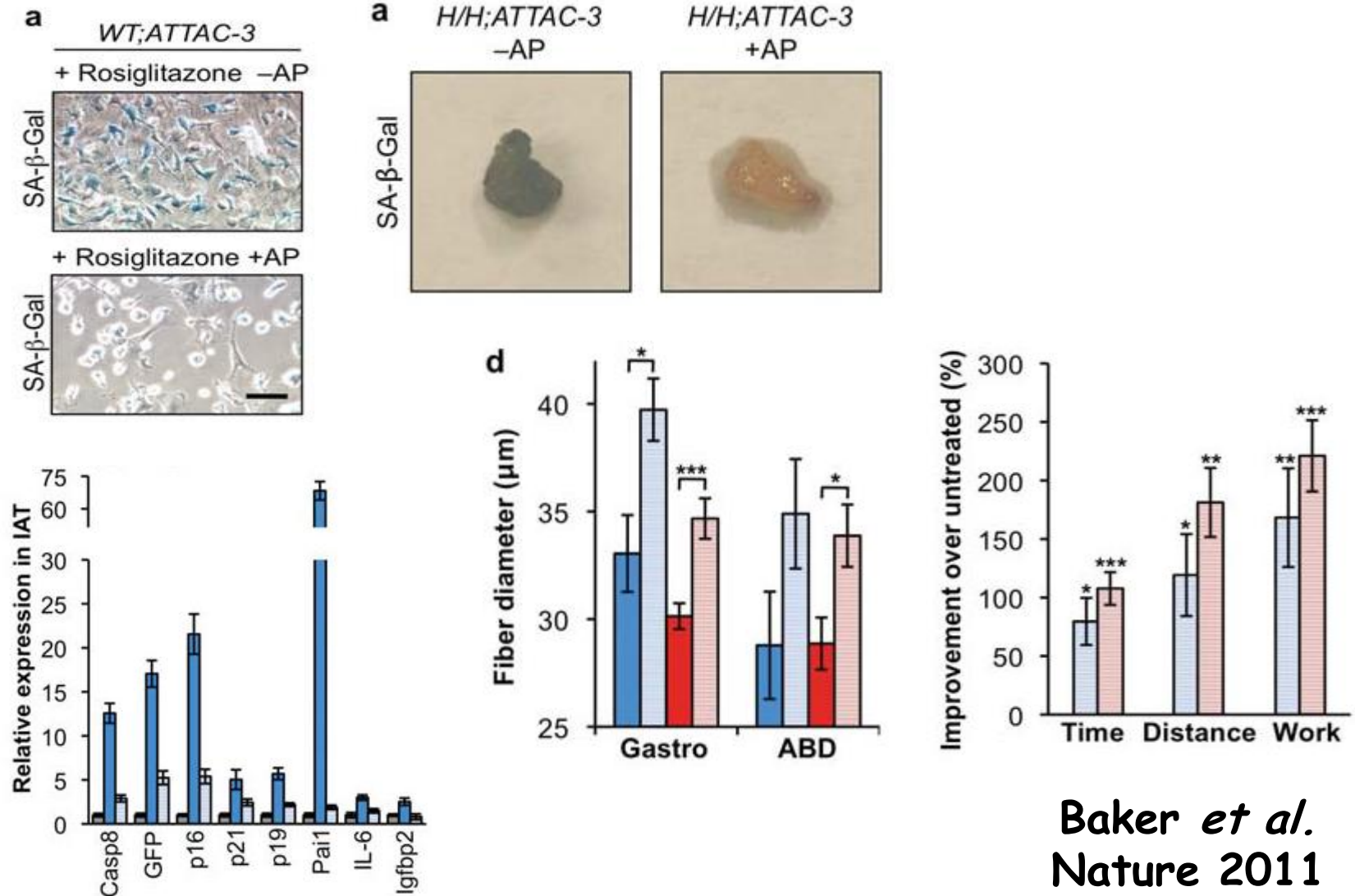


Figure 5. Progressive spread of tauopathy in NT mice identified by antibody AT8. Fig. 5 shows AT8 (phospho-tau S202/205) at low power in a young NT mouse (Fig. 5A), an old NT mouse (Fig. 5B) and images from the young NT mouse (Fig. 5D), or old NT mouse (Figs. 5E–G) with antibody AT8. Figs. 5D and 5E shows the CA and DG regions of the hippocampus. Fig. 5F shows the boundary between the LEC and the perirhinal cortex (Pe) and the scarcity of neurite staining in the perirhinal cortex compared to the LEC. Figs. 5A–C magnification = 100x, 5D–G magnification = 400x. doi:10.1371/journal.pone.0031302.g005

From Skin Cells to Neurons

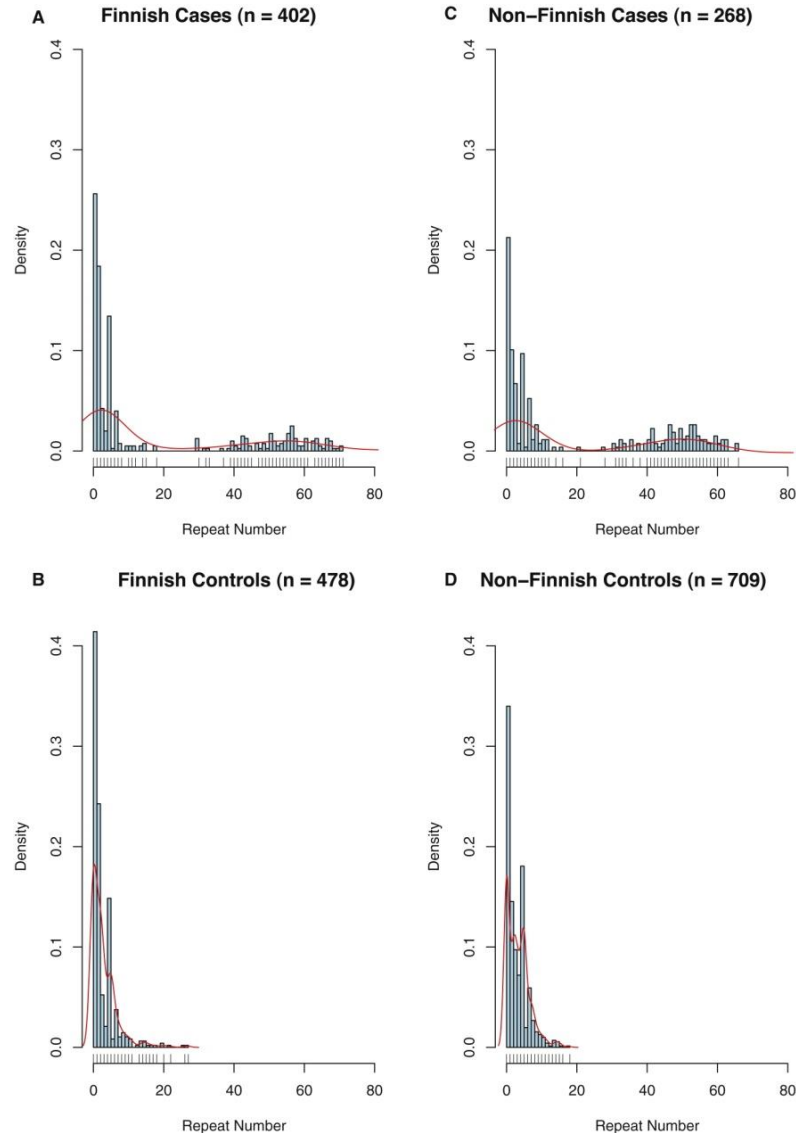


Removal of p16^{Ink4a}-positive senescent cells delays ageing-associated disorders

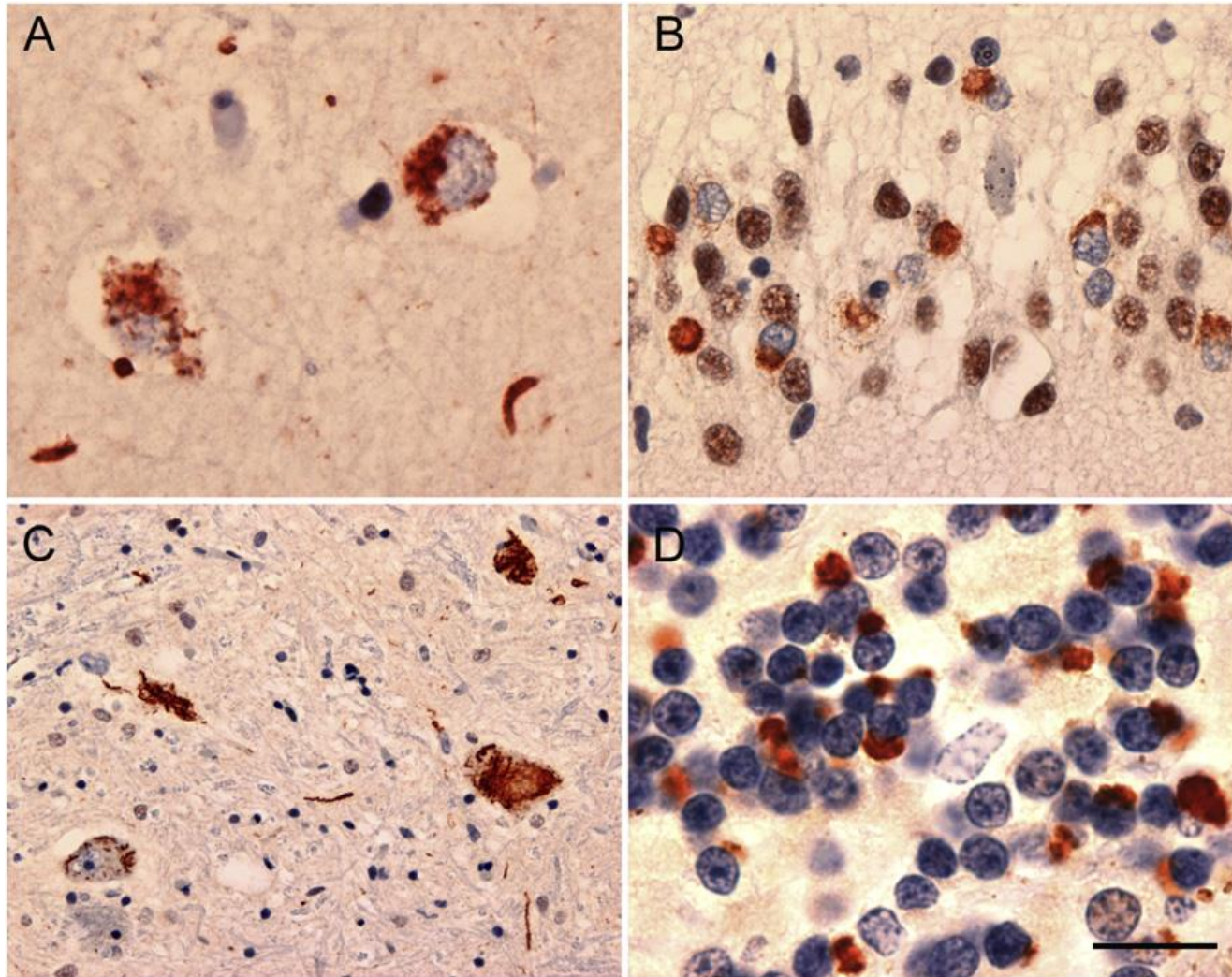


Hexanucleotide Repeat Expansion in C9ORF72

Most Common Cause of Chromosome 9p21-Linked ALS-FTD



Familial FTD/ALS Linked to Chromosome 9p



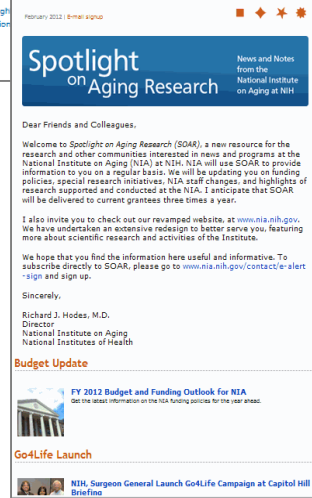
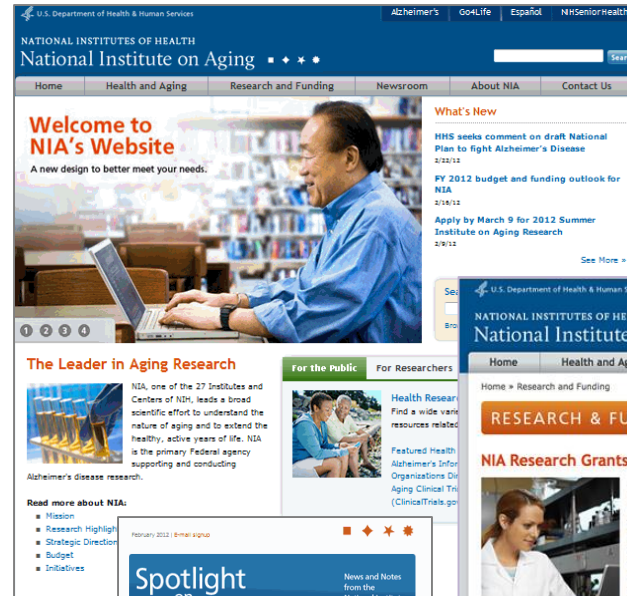
DeJesus-Hernandez, M. et al. (2011) *Neuron*

NIA's Partnerships in Training Activities

- **MSTAR**- summer training in aging for medical students (American Federation for Aging Research (AFAR), Hartford Foundation)
- **GEMSSTAR** – early research support aimed at junior faculty in medical/surgical specialties (Open)
- **Beeson** – career development support to emerging leaders (AFAR, Hartford, others)

Upgraded NIA Website, Outreach

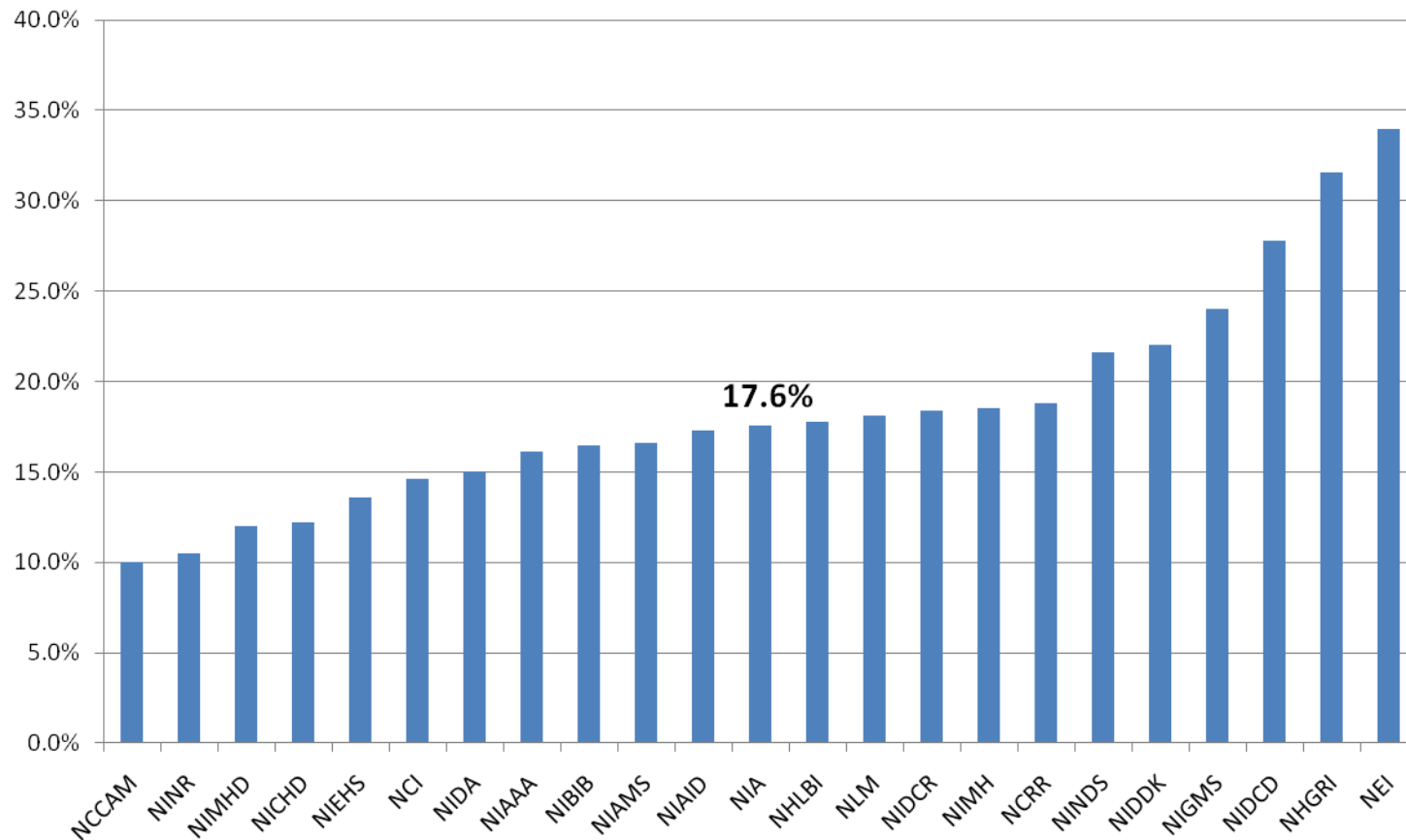
- More engaging, livelier site
- Updated features, including photos, video
- Enhanced search capabilities
- Better resources, increased outreach to:
 - researchers
 - advocates
 - health professionals



NIA and NIH RPG Success Rates 2008 to 2011

	2008	2009	2010	2011
NIH	21.8%	20.6%	20.6%	17.7%
NIA	20.4%	17.5%	14.5%	16.1%

NIH R01 Success Rates for FY2011



Consolidated Appropriations Act for FY 2012 (P.L. 112-74)

- Signed into law on December 23, 2011
- Includes funding for Labor, HHS, Education
- Provides \$30,689,000,000 for NIH, which is \$299 million above last year's level and \$758 million below the President's request.
- Provides \$1.102 billion for NIA, a \$3.6 million or .31% increase over the FY11 level, after transfers.

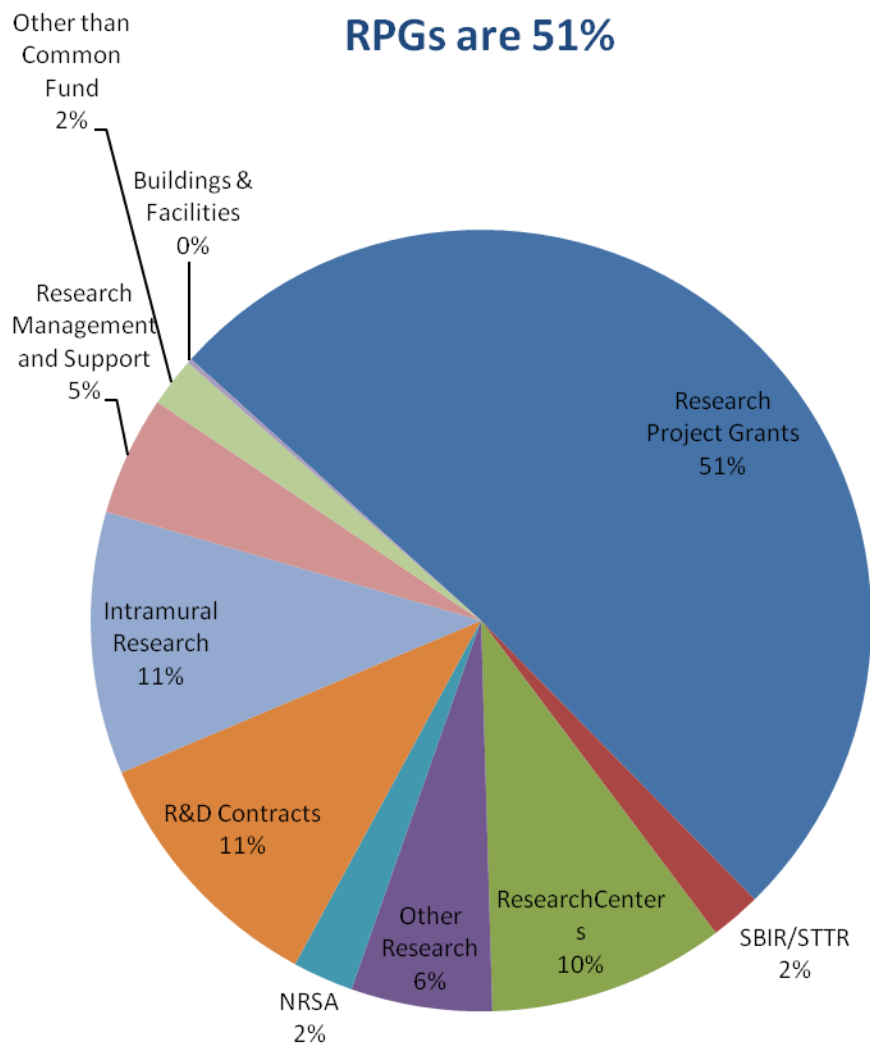
Key Provisions of P.L. 112-74

- Elimination of NCRR
- Creation of the National Center for Advancing Translational Sciences (NCATS), with a budget of \$576,456,000.
- Up to \$10 million is provided within NCATS for the Cures Acceleration Network
- Clinical and Translational Science Awards within NCATS are provided at least \$487,767,000, the same amount as requested in the FY2012 President's Budget request.
- Common Fund is provided \$ 545,962,000
- Across-the-board 'haircut' for NIH and other discretionary programs of 0.189 percent.
- **Intramural-Extramural.** “In recent years, extramural research has accounted for nearly 90 percent of NIH's budget. The conferees strongly urge NIH to maintain at least that level in fiscal year 2012.

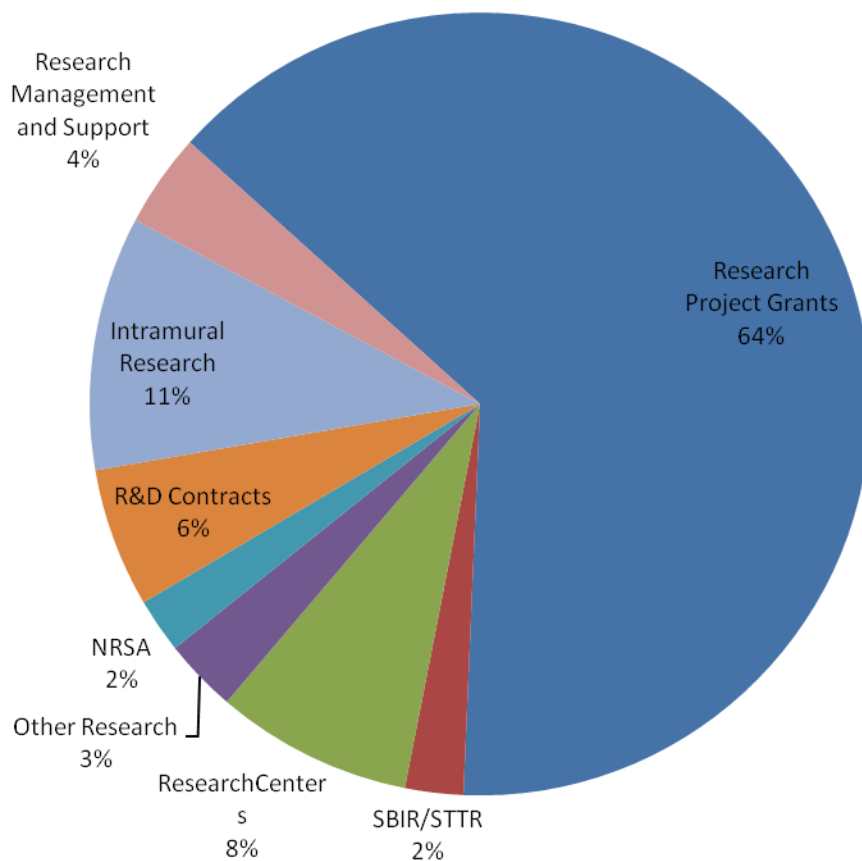
Status of FY 2013 Appropriations

- **FY2013 President's Budget** scheduled to be announced on Monday, February 13, 2012
- **Budget Control Act of 2011** signed into law (P.L. 112-25) in August, 2011 proposes to reduce the deficit by \$2.3 trillion over 10 years, with at least \$840 billion coming from discretionary spending cuts by:
 - **"Super Committee" of 12 Congressional members joint proposal (could not reach consensus),**
 - or**
 - **automatic sequestration or across-the-board cuts to discretionary spending (mandatory programs, like Social Security, food stamps, and Medicare are exempt)**

**Proportion of Total NIH Budget,
FY2011**
RPGs are 51%



**Proportion of Total NIA Budget,
FY2011**
RPGs are 64%



NIA Appropriations - FY12 Enacted, FY13 President's Budget

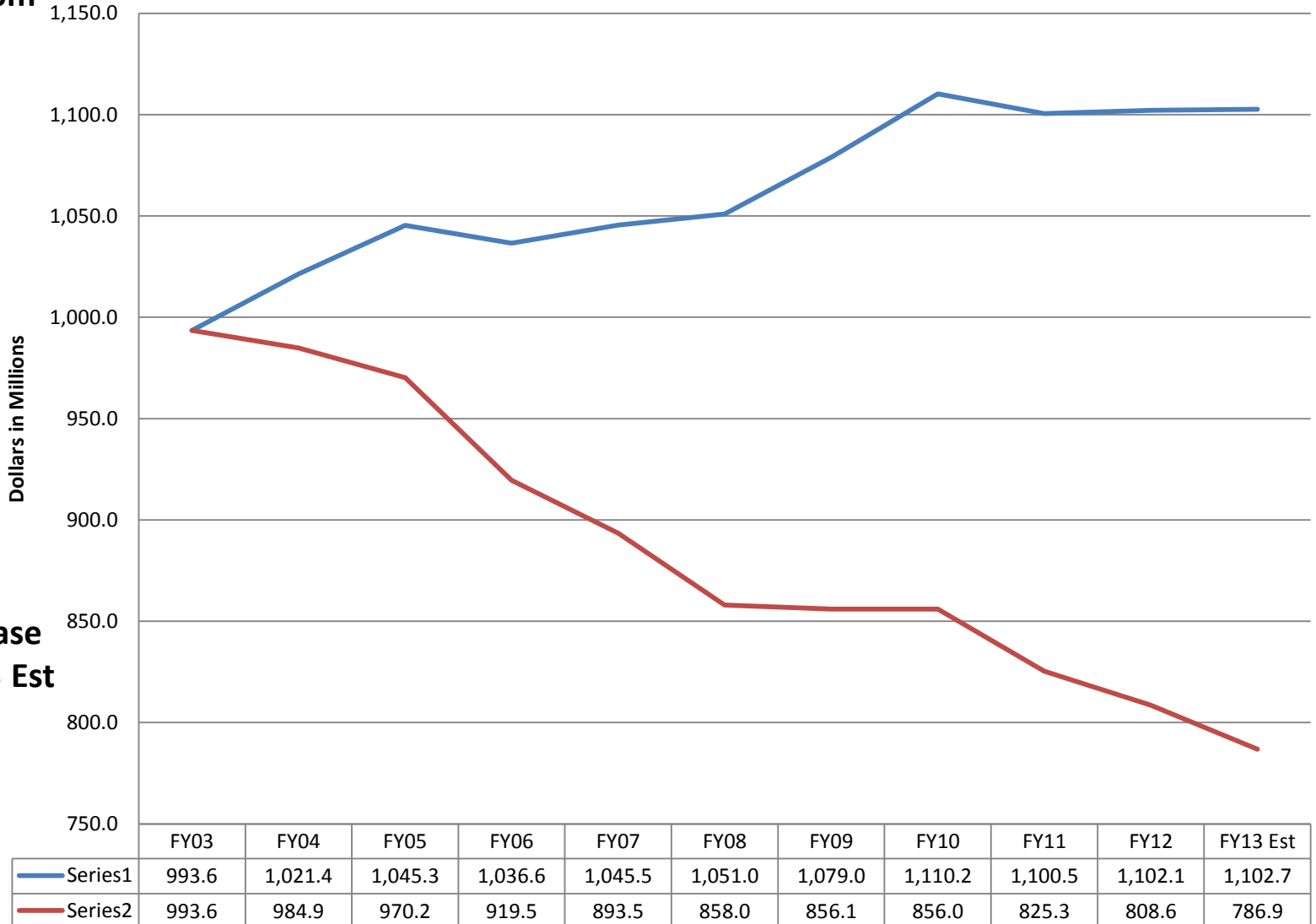
Current versus Constant, FY03 Base Year

**Difference from
FY2003**

**In Current
Dollars:
\$109.1M
Increase**

**In Constant
Dollars:
\$206.7M
Decrease**

**20.8% decrease
FY2003-2013 Est**



NIA RPG Percentile Paylines

2011 and Estimated 2012

	< \$500k	≥ \$500k
Established P.I.	11	8
Early Stage P.I. (R01 only)	16	13
Other new P.I. (R01 only)	14	11

National Alzheimer's Project Act (NAPA) Update

- Framework for National Plan to Address Alzheimer's released January, 2012
- Accepting Public Comments
- National Plan is scheduled for release in late Spring 2012

<http://aspe.hhs.gov/daltcp/napa/>

NAPA Research Goals

1. Prevent and/or Effectively Treat Alzheimer's Disease by 2025.
2. Optimize Care Quality and Efficiency.
3. Expand Patient and Family Support.
4. Enhance Public Awareness and Engagement.
5. Track Progress and Drive Improvement.

Identify Research Strategies to Prevent and/or Effectively Treat Alzheimer's Disease

- NIH/NIA will host AD Research Summit on May 14-15, 2012
- Public may register for open sessions at no cost
- Executive Committee will make final recommendations to NAPA Advisory Council
- On-line registration and details available at:
<http://www.nia.nih.gov/newsroom/announcements/2012/02/save-date-alzheimers-research-summit-may-14-15-2012>