

Arg-ADNI

Silvia Vázquez, Gustavo E. Sevlever, Ricardo Allegri, Deborah
R. Gustafson, Salvador M. Guinjoan(*)

Depts. of Neuroimaging, Neuropathology, and Cognitive
Neurology and Neuropsychiatry, FLENI, Buenos Aires,
Argentina

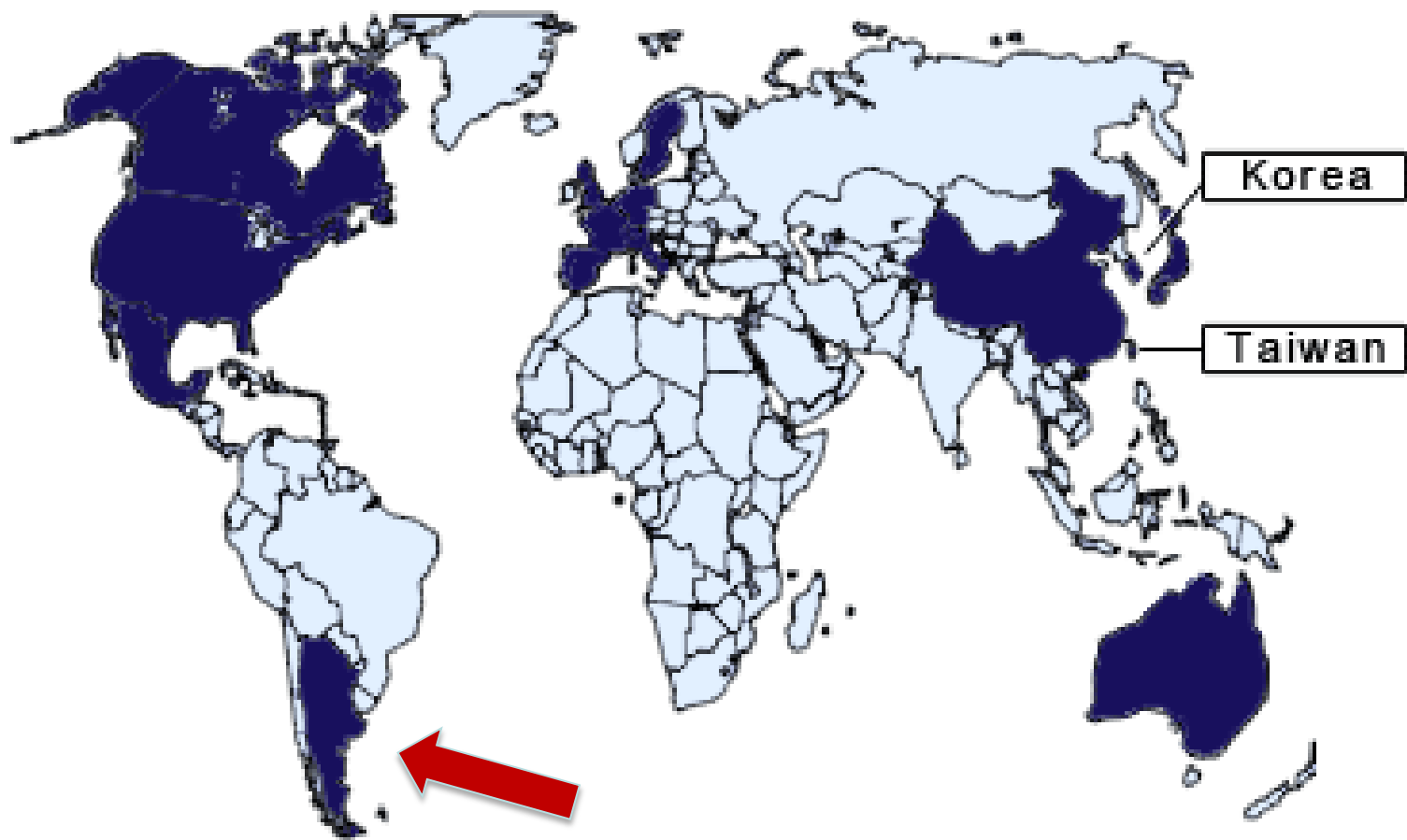
WW-ADNI update, Boston, July 12, 2013

*speaker

Argentina has the greatest percentage of at-risk individuals, those age 65 years and older, in South America.

On February 7, 2011, the Argentine Ministry of Science agreed to complement support of Argentina ADNI and create and support future national Argentine initiatives for AD research.

ADNI protocol received Institutional Review Board approval at FLENI on February 10, 2011



We completed recruitment of 60 Argentine adults, age 55-90 years.

We hope this sample will comprise part of the baseline for a larger Argentina ADNI 2 cohort of 300, involving other sites.

- First participant screened March 2011
- Initial target for single-center, pilot study:
15 AD, 30 MCI, 15 healthy C
- 60th participant screened Jun 2013
- Total *n* as of June 2013:
 - 15 AD (60% women, age 77 ± 5 years)
 - 30 MCI (48% women, age 70 ± 7 years)
 - 15 C(60% women, age 66 ± 8 years)

- Clinical evaluation, neuropsychological evaluation, blood sampling including DNA banking, MRI in all patients (data in LONI).
- Two patients scheduled for screening failed due to claustrophobia.
- 8 participants included into the protocol declined lumbar puncture (13.3 %).
Another patient was anticoagulated.

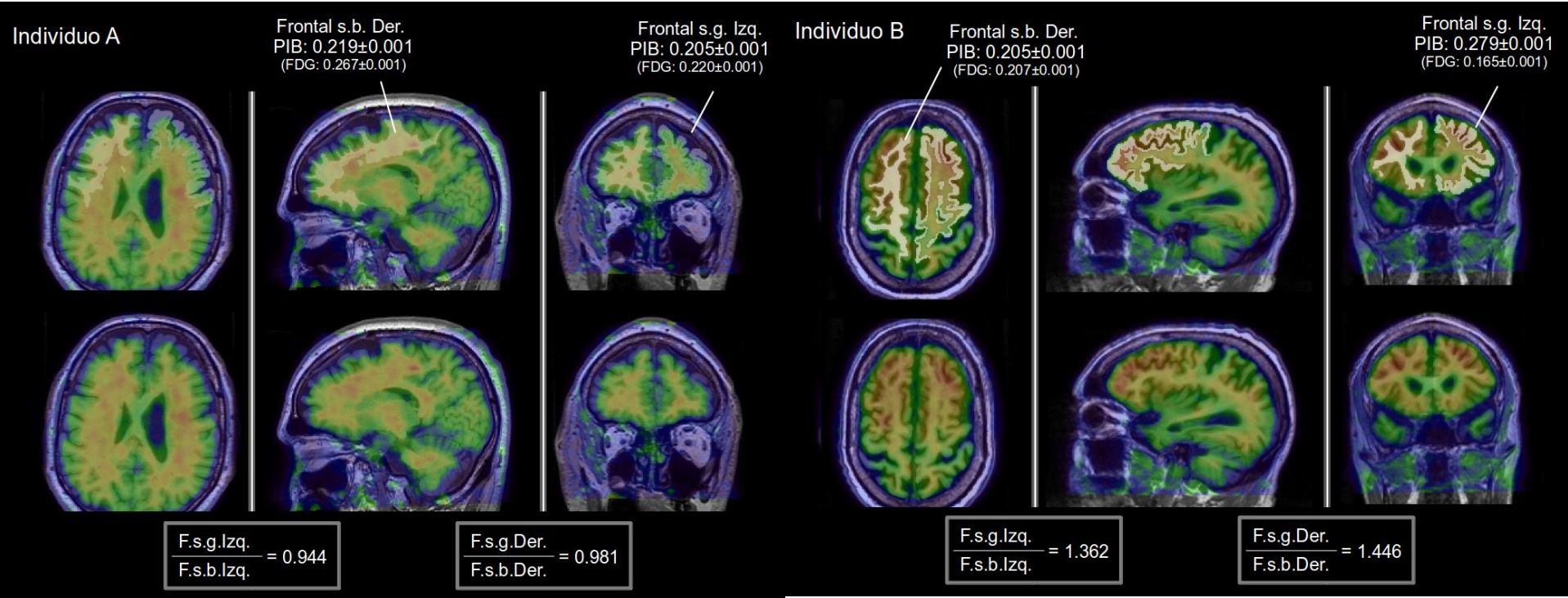
- Functional brain imaging delayed due to lack of access to florbetapir.
- FLENI's PET/cyclotron facility 40 km away from clinic (need to optimize logistics and increase patient comfort makes it convenient to do amyloid and FDG imaging on the same day).

PET scanning as of June 2013

	FDG	FDG normal	PiB	PiB +
<i>AD</i>	7	0	5	4
<i>eMCI</i>	14	3	7	5
<i>IMCI</i>	11	2	5	2
<i>Healthy</i>	13	10	8	0
<i>Total</i>	45		25	

Healthy

AD



Alzheimer's Association QC program for CSF

Alzheimer's Association QC program for CSF

A β 42

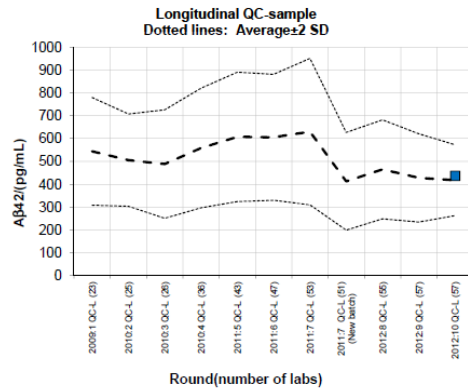
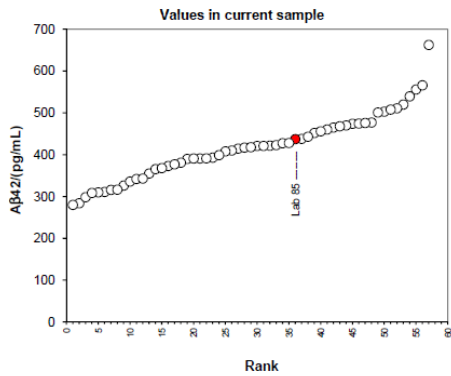
Longitudinal evaluations

Buenos Aires (Lab 85)

All 57 labs in this round

Round: 2012:10QC-L
Result: 437 pg/mL
Method: INNOTEST

Mean: 418 pg/mL
SD: 77 pg/mL
CV: 18,5%



T-tau

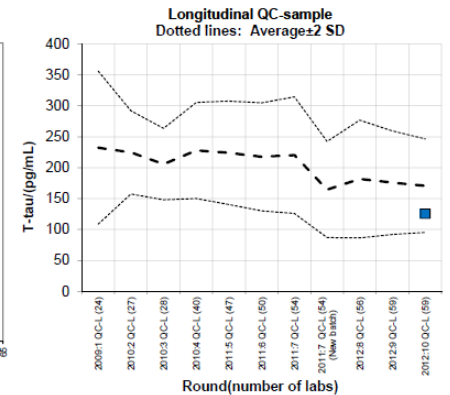
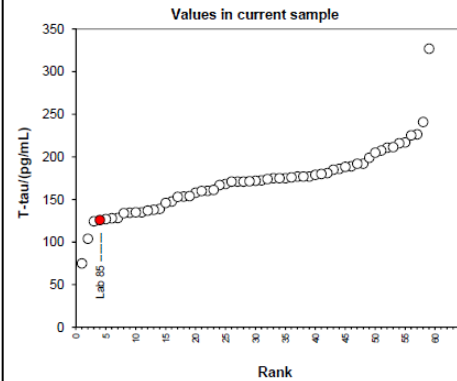
Longitudinal evaluations

Buenos Aires (Lab 85)

All 59 labs in this round

Round: 2012:10QC-L
Result: 126 pg/mL
Method: INNOTEST

Mean: 171 pg/mL
SD: 38 pg/mL
CV: 22,1%



Alzheimer's Association QC program for CSF

P-tau

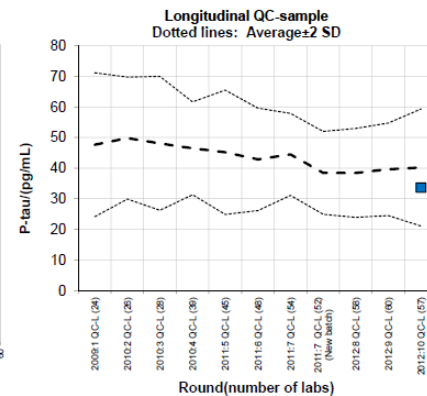
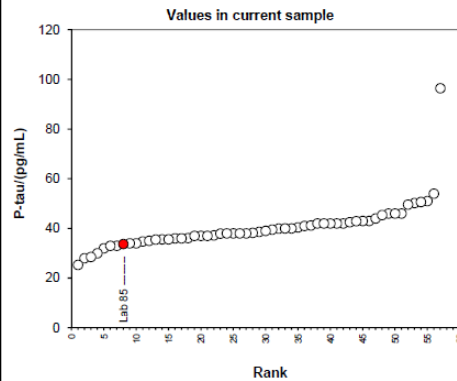
Longitudinal evaluations

Buenos Aires (Lab 85)

All 57 labs in this round

Round: 2012:10QC-L
Result: 34 pg/mL
Method: INNOTEST

Mean: 40 pg/mL
SD: 10 pg/mL
CV: 23,7%



Association between volumetric MRI outcomes and cognitive test scores

	Left Hippocampus		Right Hippocampus		Total Brain		Brain (minus ventricles)	
	<i>General</i>	<i>MCI</i>	<i>General</i>	<i>MCI</i>	<i>General</i>	<i>MCI</i>	<i>General</i>	<i>MCI</i>
RAVLT - Trial 6	0,60*** (35)	0,49* (21)	0,61*** (35)	0,46* (21)	0,37* (35)	0,36 (21)	0,41* (35)	0,38 (21)
Clock Drawing	0,24 (37)	0,03 (22)	0,31 (37)	0,12 (22)	0,30 (37)	0,17 (22)	0,32 (37)	0,20 (22)
Category Fluency	0,49** (38)	0,38 (23)	0,55*** (38)	0,44* (23)	0,38* (38)	0,33 (23)	0,41** (38)	0,35 (23)
Trail Making A	-0,45** (38)	-0,10 (23)	-0,50** (38)	-0,20 (23)	-0,48** (38)	-0,44* (23)	-0,53*** (38)	-0,45* (23)
Trail Making B	-0,35* (36)	-0,11 (23)	-0,40* (36)	-0,16 (23)	-0,49** (36)	-0,48* (23)	-0,52** (36)	-0,44* (23)

Shown are pearson's r (n).

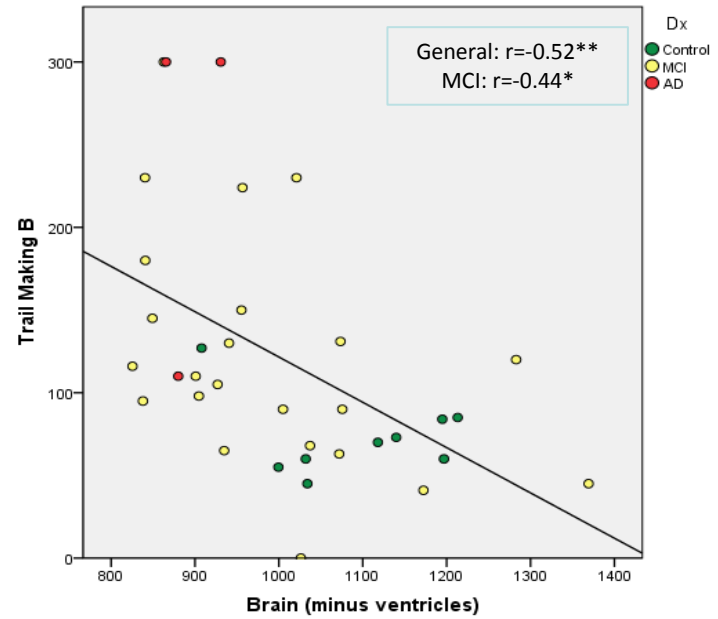
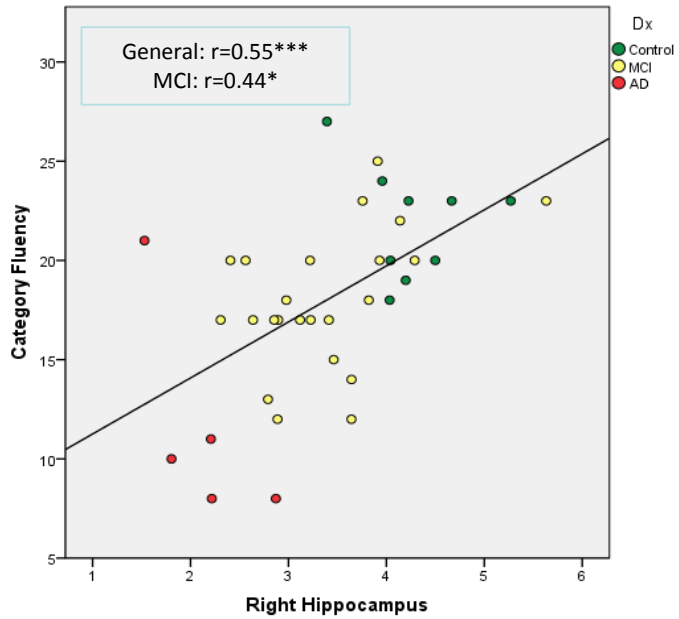
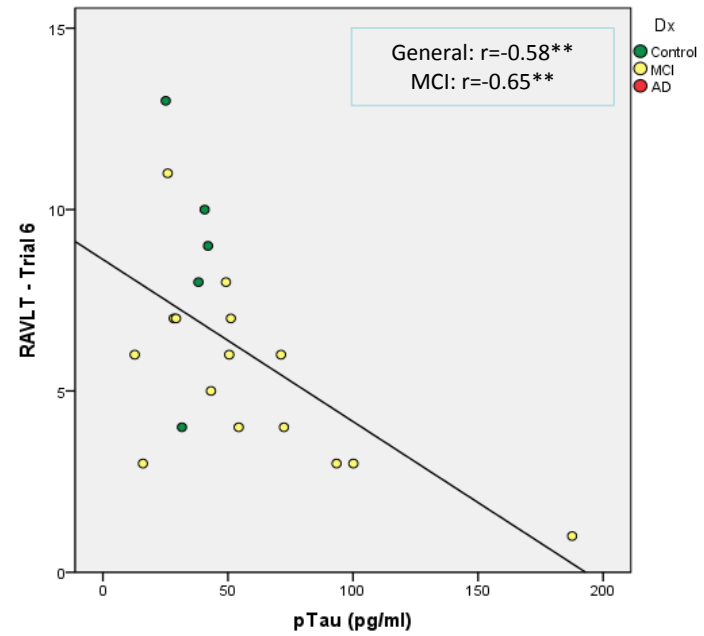
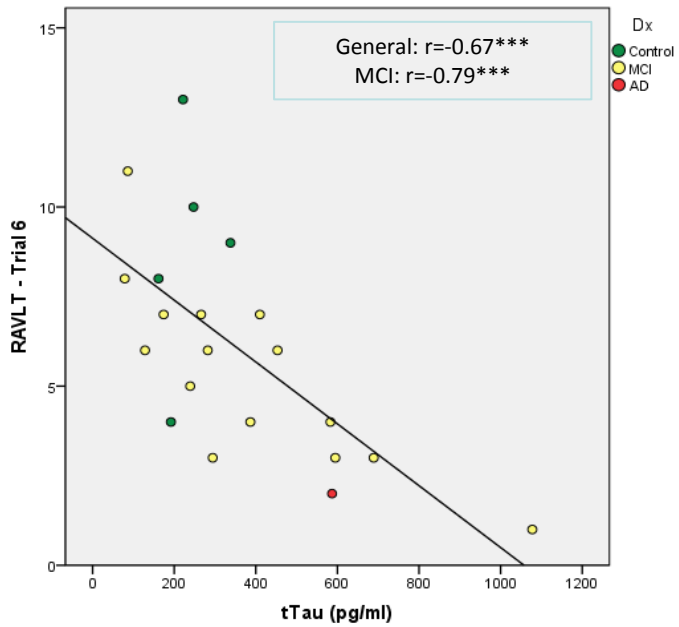
*: p<0,05; **:p<0,01; ***p<0,001

Association between CSF biomarkers and cognitive test scores

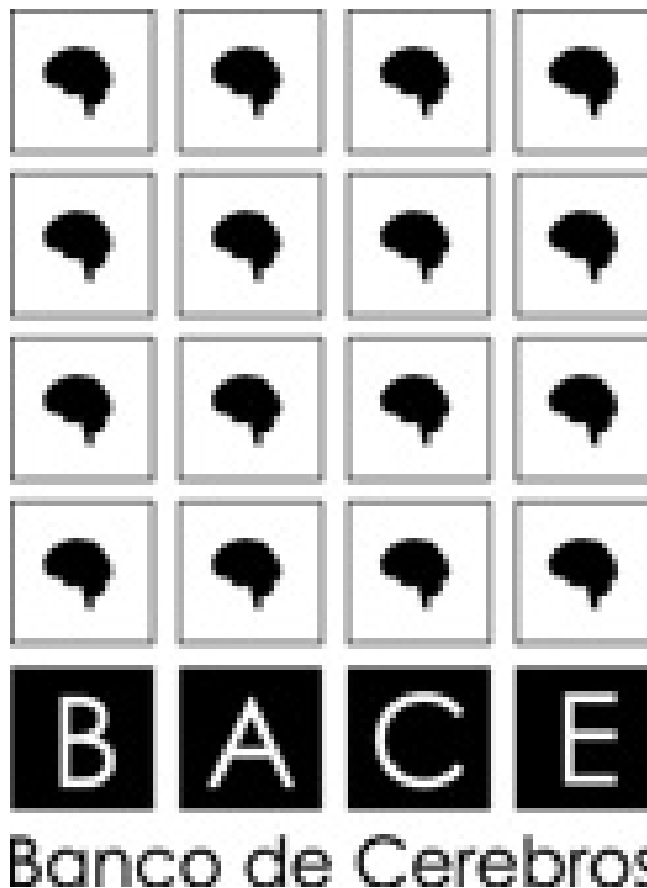
	ABeta42		tTau		pTau	
	<i>General</i>	<i>MCI</i>	<i>General</i>	<i>MCI</i>	<i>General</i>	<i>MCI</i>
RAVLT - Trial 6	0,48* (21)	0,26 (15)	-0,67*** (21)	-0,79*** (15)	-0,58** (20)	-0,65** (15)
Clock Drawing	0,25 (23)	0,09 (16)	-0,44* (23)	-0,35 (16)	-0,32 (22)	-0,25 (16)
Category Fluency	0,40 (24)	0,23 (17)	-0,60** (24)	-0,61** (17)	-0,62** (23)	-0,66** (17)
Trail Making A	-0,12 (24)	-0,07 (17)	0,34 (24)	0,39 (17)	0,47* (23)	0,51* (17)
Trail Making B	0,09 (24)	0,39 (17)	0,15 (24)	-0,04 (17)	0,12 (23)	0,03 (17)

Shown are Pearson's r (n).

*: p<0,05; **:p<0,01; ***p<0,001



*: $p<0,05$; **: $p<0,01$; ***: $p<0,001$



Brain Bank.

Banco de Cerebros

FLENI houses the only brain bank in Argentina, the 2nd in South America. ADNI participants are being asked to consent brain donation at the time of death.

Brain banking: opportunities, challenges and meaning for the future

Kretzschmar

Nature Reviews Neuroscience 10, 70-78 (January 2009)



Nature Reviews | Neuroscience

Future tasks

- Agreement with GE to begin employing their ABeta imaging compound
- DIAN
- Grant application to study children of AD patients 45-65 y.o. with an ADNI-like protocol + autonomic and circadian abnormalities.

ARGENTINA NEUROCOGNITIVE SECTION

- Neurologists

- Ricardo Allegri
- Jorge Campos
- Alejandra Amengual
- Marcos Fernández Suárez
- Patricio Chrem
- Julieta Russo

- Psychiatrists

- Griselda Russo
- Pablo Bagnati
- Lucas Drucaroff
- Salvador Guinjoan

- Psychologists

- María Eugenia Martín
- Valeria Grondona
- Florencia Clarens
- Lucía Crivelli
- Elisa Smyth
- Gabriela Kuzis

- Speech therapists

- Liliana Sabe
- Cristina Medina
- Agustina García Cuerva
- Victoria Uribelarrea
- Mónica Feldman

Radiology

- Dra. Silvia Vazquez
- Lic. Claudio Wierszylo
- Bioeng. German Falasco
- Lic. Leandro Urrutia,
Physicist

Biomarkers/ Pathology

- Dr. Gustavo Sevlever
- Dr. Horacio Martinetto
- Dr. Ezequiel Surace

- Epidemiology

- Dr. Deborah Gustafson

Thank you

ADMG Argentina

