Journal of Alzheimer's Disease 33 (2013) 1–3
IOS Press

Supplementary Data

Comparison of Two Analytical Platforms for the Clinical Qualification of Alzheimer's Disease Biomarkers in Pathologically-Confirmed Dementia

Nathalie Le Bastard[a,*], Els Coart[c,1], Hugo Vanderstichele[c,2], Eugeen Vanmechelen[c,2], Jean-Jacques Martin[b] and Sebastiaan Engelborghs[a,d]
[a]*Reference Center for Biological Markers of Dementia (BIODEM), Laboratory of Neurochemistry and Behavior, University of Antwerp, Antwerp, Belgium*
[b]*Biobank, Institute Born-Bunge, University of Antwerp, Antwerp, Belgium*
[c]*Innogenetics NV (part of Fujirebio), Ghent, Belgium*
[d]*Department of Neurology and Memory Clinic, Hospital Network Antwerp (ZNA) Middelheim and Hoge Beuken, Antwerp, Belgium*

Handling Associate Editor: Piotr Lewczuk

Accepted 16 July 2012

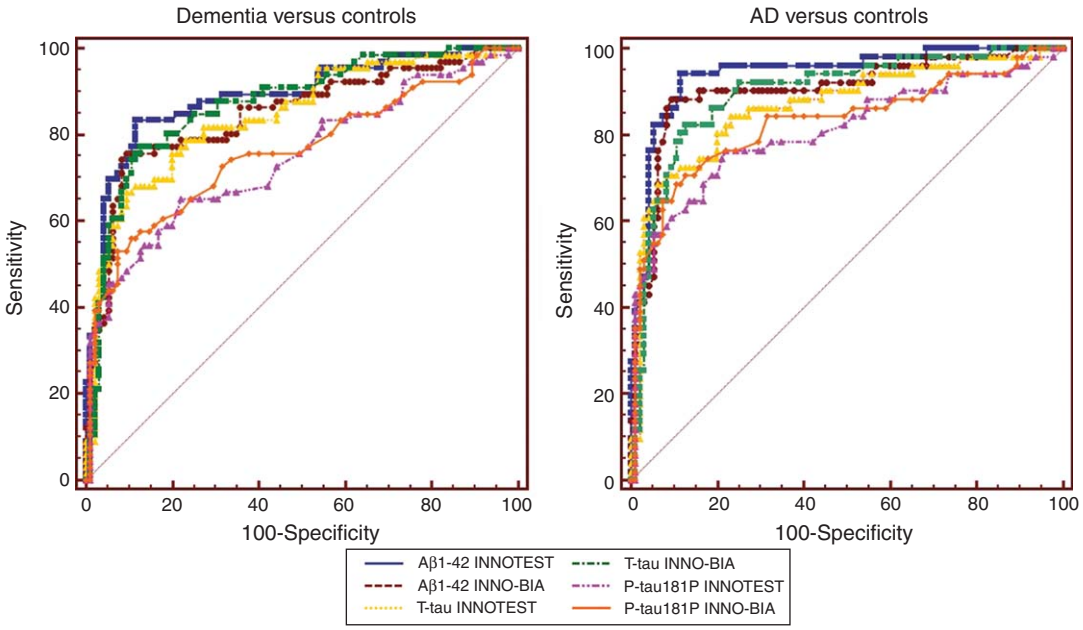
Present address:
[1]Now an employee of IDDI, Louvain-la-Neuve, Belgium.
[2]Co-founders and employees of ADx Neurosciences, Ghent, Belgium.
*Correspondence to: Dr. Nathalie Le Bastard, University of Antwerp, Campus Drie Eiken, Building T Room 5.27, Universiteitsplein 1, 2610 Antwerp, Belgium. Tel.: +32 3 265 26 31; Fax: +32 3 265 26 18; E-mail: nathalie.lebastard@ua.ac.be.

ISSN 1387-2877/13/$27.50

Supplementary Table 1
Logistic regression models of cerebrospinal fluid (CSF) biomarker concentrations, selected after backward elimination of non-significant predictor variables (except for age at CSF sampling, which is presented when included as a co-variate, irrespective of its *p*-value)

INNO-BIA (Luminex)	Parameter	Estimate	se	z-value	*p*-value
a. Logistic regression analysis					
Dementia versus controls	Intercept	10.359	4.871	2.127	0.033
	$A\beta_{1\text{-}42}$	–3.917	0.838	–4.675	<0.001
	T-tau	2.165	0.453	4.774	<0.001
AD versus controls	Intercept	15.463	5.722	2.702	0.007
	$A\beta_{1\text{-}42}$	–5.057	1.014	–4.989	<0.001
	T-tau	2.208	0.523	4.225	<0.001
AD versus non-AD	Intercept	4.412	6.555	0.673	0.501
	$A\beta_{1\text{-}42}$	–2.083	1.082	–1.925	0.054
	P-tau_{181P}	1.906	0.762	2.501	0.012
b. Logistic regression analysis with age as a co-variate					
Dementia versus controls	Intercept	6.187	4.831	1.281	0.200
	$A\beta_{1\text{-}42}$	–3.251	0.800	–4.089	<0.001
	T-tau	1.890	0.463	4.081	<0.001
	age_CSF	0.032	0.012	2.668	0.008
AD versus controls	Intercept	12.581	6.494	1.937	0.053
	$A\beta_{1\text{-}42}$	–4.558	1.128	–4.039	<0.001
	T-tau	2.081	0.532	3.913	<0.001
	age_CSF	0.015	0.016	0.887	0.375
AD versus non-AD	Intercept	4.117	6.625	0.621	0.534
	$A\beta_{1\text{-}42}$	–2.057	1.076	–1.911	0.056
	P-tau_{181P}	1.879	0.771	2.438	0.015
	age_CSF	0.004	0.017	0.213	0.831
INNOTEST (ELISA)					
a. Logistic regression analysis					
Dementia versus controls	Intercept	12.882	5.879	2.191	0.028
	$A\beta_{1\text{-}42}$	–3.837	0.794	–4.830	<0.001
	T-tau	6.511	1.735	3.754	<0.001
	P-tau_{181P}	–6.792	2.433	–2.791	0.005
AD versus controls	Intercept	21.302	6.966	3.058	0.002
	$A\beta_{1\text{-}42}$	–5.608	1.056	–5.310	<0.001
	T-tau	2.259	0.562	4.018	<0.001
AD versus non-AD	Intercept	3.732	5.703	0.654	0.513
	$A\beta_{1\text{-}42}$	–2.500	0.946	–2.643	0.008
	P-tau_{181P}	3.197	0.995	3.212	0.001
b. Logistic regression analysis with age as a co-variate					
Dementia versus controls	Intercept	9.363	6.102	1.534	0.125
	$A\beta_{1\text{-}42}$	–3.318	0.813	–4.079	<0.001
	T-tau	5.885	1.675	3.513	<0.001
	P-tau_{181P}	–6.270	2.337	–2.682	0.007
	age_CSF	0.027	0.018	1.561	0.119
AD versus controls	Intercept	21.364	7.689	2.779	0.005
	$A\beta_{1\text{-}42}$	–5.617	1.174	–4.785	<0.001
	T-tau	2.262	0.583	3.879	<0.001
	age_CSF	–0.0003	0.015	–0.019	0.985
AD versus non-AD	Intercept	1.834	5.763	0.318	0.750
	$A\beta_{1\text{-}42}$	–2.495	0.931	–2.680	0.007
	P-tau_{181P}	3.306	1.040	3.180	0.001
	age_CSF	0.021	0.016	1.337	0.181

$A\beta_{1\text{-}42}$, amyloid-$\beta_{1\text{-}42}$ protein; AD, Alzheimer's disease; Non-AD, non-Alzheimer's disease dementia; P-tau_{181P}, tau phosphorylated at threonine 181; se, standard error; T-tau, total tau protein.



Supplementary Figure 1. Receiver operating characteristics curves for individual biomarkers determined using both methods for dementia versus controls and AD versus controls.