

Supplementary Data

CSF Levels of Heart Fatty Acid Binding Protein are Altered During Early Phases of Alzheimer's Disease

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Supplementary Table 1. CSF levels of HFABP, $A\beta_{1-42}$, t-tau and p-tau in the diagnostic groups

Patient groups	HFABP (pg/mL)	$A\beta_{1-42}$ (pg/mL)	t-tau (pg/mL)	p-tau (pg/mL)
OND	358 (200–500)	775 (548–897)	155 (82–224)	30 (22–40)
MCI-MCI	463 (342–613)	942 (813–1095)	220 (171–267)	44 (15–140)
MCI-AD	571 ^a (477–742)	388 ^b (292–782)	380 ^{a,b} (285–553)	67 ^{a,b} (55–84)
AD	690 ^{a,b} (501–887)	474 ^{a,b} (319–660)	644 ^{a,b} (442–1069)	90 ^{a,b} (65–137)

Data are given as median and 25th–75th percentiles. ^aat least $p < 0.05$ vs OND; ^bat least $p < 0.05$ versus MCI-MCI.

Supplementary Table 2. Correlations of HFABP with classical CSF markers in the diagnostic groups

Patients groups	CSF markers	HFABP	
		r	p-value
OND	$A\beta_{1-42}$	0.163*	0.545
	t-tau	0.150*	0.580
	p-tau	0.467*	0.068
MCI-MCI	$A\beta_{1-42}$	0.424 [†]	0.079
	t-tau	0.648 [†]	0.004
	p-tau	0.590 [†]	0.010
MCI-AD	$A\beta_{1-42}$	−0.443 [†]	0.039
	t-tau	0.517 [†]	0.014
	p-tau	0.383 [†]	0.116
AD	$A\beta_{1-42}$	0.015*	0.934
	t-tau	0.573*	0.001
	p-tau	0.462*	0.009

* Pearson correlation, [†] Spearman correlation.

Supplementary Table 3. Results from ROC analysis of different patients groups

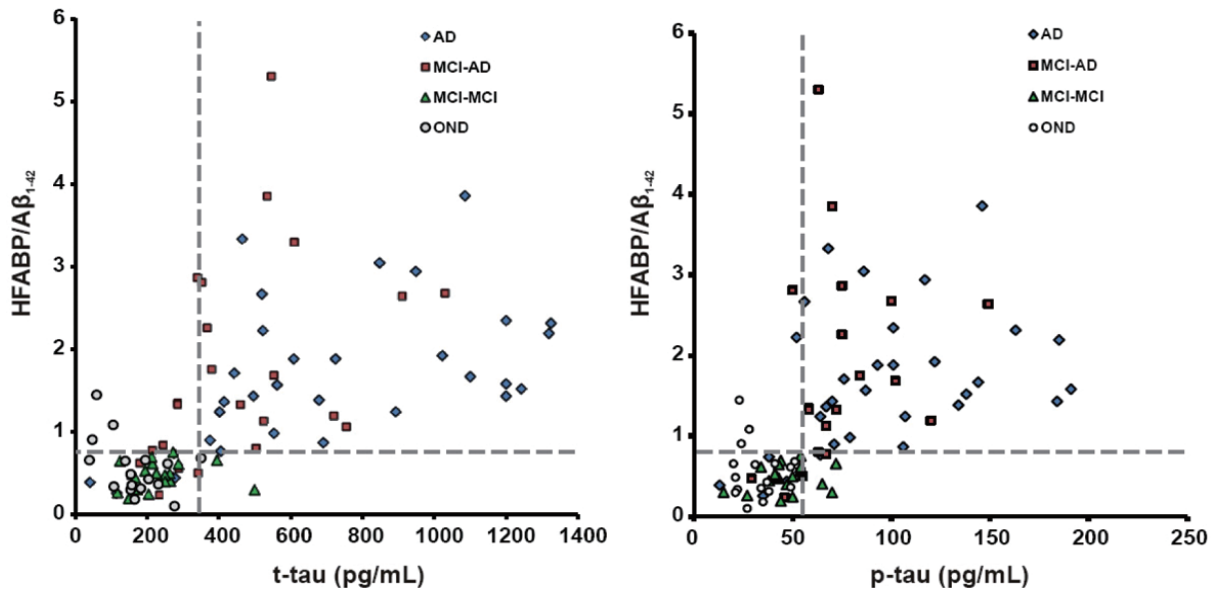
Biomarkers	OND versus AD				MCI-MCI versus MCI-AD			
	Sensitivity (%)	Specificity (%)	AUC	Cut-Off value (pg/mL)	Sensitivity (%)	Specificity (%)	AUC	Cut-Off value (pg/mL)
HFABP	87	81	0.83	> 451.5	46	94	0.72	> 627.5
$A\beta_{1-42}$	94	63	0.78	< 741.0	68	100	0.87	< 600.0
t-tau	87	95	0.94	> 363.0	80	83	0.84	> 279.0
p-tau	87	95	0.93	> 51.4	81	83	0.84	> 54.5
HFABP/ $A\beta_{1-42}$	90	82	0.89	> 0.7	80	100	0.90	> 0.7
HFABP/t-tau	72	82	0.81	< 1.3	87	44	0.64	< 2.1
HFABP/p-tau	64	77	0.70	< 8.6	42	89	0.59	< 7.7

In the table the values of sensitivity (%), specificity (%), cut-off values, and Area Under the Curve (AUC) are reported for OND versus AD, MCI versus OND, MCI-AD versus MCI-MCI.

Supplementary Table 4. Correlation with MMSE annual decrease rate for all the biomarkers and ratios measured in the study

Biomarkers	MMSE-ADR		
	Spearman r	95% confidence interval	p value
HFABP	−0.3325	−0.6059 to 0.01113	0.0510
$A\beta_{1-42}$	0.5933	0.3148 to 0.7777	0.0002
t-tau	−0.4885	−0.7118 to −0.1755	0.0029
p-tau	−0.4956	−0.7282 to −0.1607	0.0046
HFABP/ $A\beta_{1-42}$	−0.6274	−0.7983 to −0.3629	0.0000
HFABP/t-tau	0.2044	−0.1484 to 0.5110	0.2389
HFABP/p-tau	0.1373	−0.2386 to 0.4774	0.4613

MMSE annual decrease rate (MMSE-ADR) was calculated as follows:
 $(\text{MMSE}_{4\text{th year of follow-up}} - \text{MMSE}_{\text{baseline}}) / \text{years of follow-up}$.

Supplementary Figure 1. Scatter plot of CSF HFABP/ $A\beta_{1-42}$ ratio in combination with CSF t-tau and p-tau levels for groups' discrimination.