

**Increased blood BACE1 activity as a potential common pathogenic factor of
vascular dementia and late onset Alzheimer's disease**

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Table S1. Levels of serum BACE1 activity in controls, Frontotemporal Dementias, Lewy Body disease/Parkinson’s dementia, and other dementias after exclusion of younger controls.

Characteristics	CONTROLS (n:82)	Frontotemporal Dementia (n:13)	Lewy Body disease /Parkinson’s dementia (n:13)	OTHER DEMENTIAS* (n:30)
Age (years)	79 ± 4	74 ± 6 ^{a,b}	78 ± 5	78 ± 5
BACE1 (kU/L)	16 (13-20)	15 (13-17)	19 (12-20)	18 (15-23)

Continuous variables are expressed as mean ± SEM or median

Post-hoc test: ^a p < 0.05 vs controls; ^b p < 0.05 vs other dementias

*The group includes: 8 condition related to psychiatric conditions, 5 neoplasm/metastasis, 2 hydrocephalus, 2 Fahr’s syndrome, 2 alcohol related, 1 post syphilis, 1 hypothyroidism, 9 not defined

Table S2. Levels of serum BACE1 activity in controls, LOAD, VAD, MIXED, and other dementias in women and men.

	CONTROLS	LOAD	VAD	MIXED	OTHER DEMENTIAS
- WOMEN					
BACE1 (kU/L)[#]	16 (13-20)	21 (16-27) ^a	23 (19-31) ^a	21 (17-29) ^a	17 (15-21) ^{c,d}
- MEN					
BACE1 (kU/L)[#]	14 (12-17)	22 (17-26) ^a	22 (17-26) ^a	18 (16-24) ^a	18 (14-20)

Continuous variables are expressed as mean \pm SEM or median

Post-hoc test: ^ap < 0.05 vs controls; ^cp < 0.05 vs VAD; ^dp < 0.05 vs MIXED

Table S3. Odds Ratios (95%C.I.) for diagnosis of LOAD, VAD or MIXED dementia in subjects with high levels (IV quartile, cut-off: 18.3 kU/L) of serum BACE1 activity.

		Adjusted for age and gender
LOAD	5.91 (3.78-9.22) *	5.25 (3.22-8.56) *
VAD	8.64 (3.94-16.92) *	5.69 (2.37-11.65) *
MIXED	4.40 (2.74-7.18) *	5.25 (3.22-8.56) *

*p<0.001

Table S4. Area under curve (AUC), sensitivity and specificity for ROC curves calculated at the optimal cutoff, of serum BACE1 to discriminate Controls from LOAD, VAD or MIXED

	Cut-off (kU/L)	SE (%)	SP (%)	p value	AUC 95% CI
CONTROLS vs LOAD	>16.9	73	70	<0.0001	0.772 (0.711-0.809)
CONTROLS vs VAD	>18.0	85	75	<0.0001	0.831 (0.748-0.897)
CONTROLS vs MIXED	>17.0	74	71	<0.0001	0.771 (0.723-0.825)
CONTROLS vs LOAD+VAD+MIXED	>16.9	75	70	<0.0001	0.773 (0.732-0.813)

Abbreviations: SE, sensitivity; SP, specificity; AUC, area under the curve; CI, Confidence interval