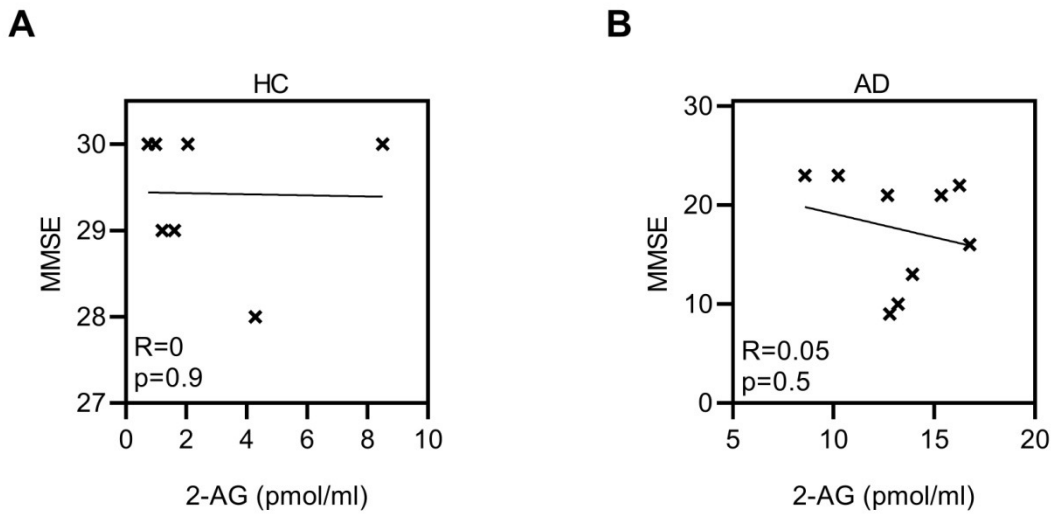
Supplementary Table.1

	HC	AD		
Age	69,35 ± 26,41	76,70 ± 8,12	69.94	<0.001
Schooling	11,20 ± 4,53	9,47 ± 4,81	27.53	<0.001
MMSE	29,46 ± 1,27	23,40 ± 2,12	469,68	<0.001
BMI	23,9 ± 1,59	23,40 ± 2,12	21,806	<0.001
			X^2	P
Sex				
Male	20 (100%)	20(100%)		
			0.200	0.000
Female	0 (0%)	0(0%)		
Patient history				
Smoke	1 (10%)	6(30%)	39,200	0,361
Dyslipidemia	2(20%)	2(10%)	36,450	0,303
Diabetes	2(20%)	2 (10%)	39,200	0,516
Hypertension	4 (40%)	10(50%)	1,300	0,399
AMI	2(20%)	0(0%)	51,200	0,138
Cerebrovascular events	0(0%)	0 (0%)	76,050	0,393
Drugs				
Antihypertensive agent	7(70%)	14(70%)	2,450	0,240
Lipid lowering	1(10%)	2(10%)	16,200	0,971
Medicinal				
Products				
Thyroid hormons	1(10%)	2(10%)	34,667	0,06
AchE-I	0(0%)	4(20%)	63,450	0,292
Benzodiazepines	1(10%)	2(10%)	54,450	0,245

Supplementary Table 1. Demographic and clinical characteristics of the study group.

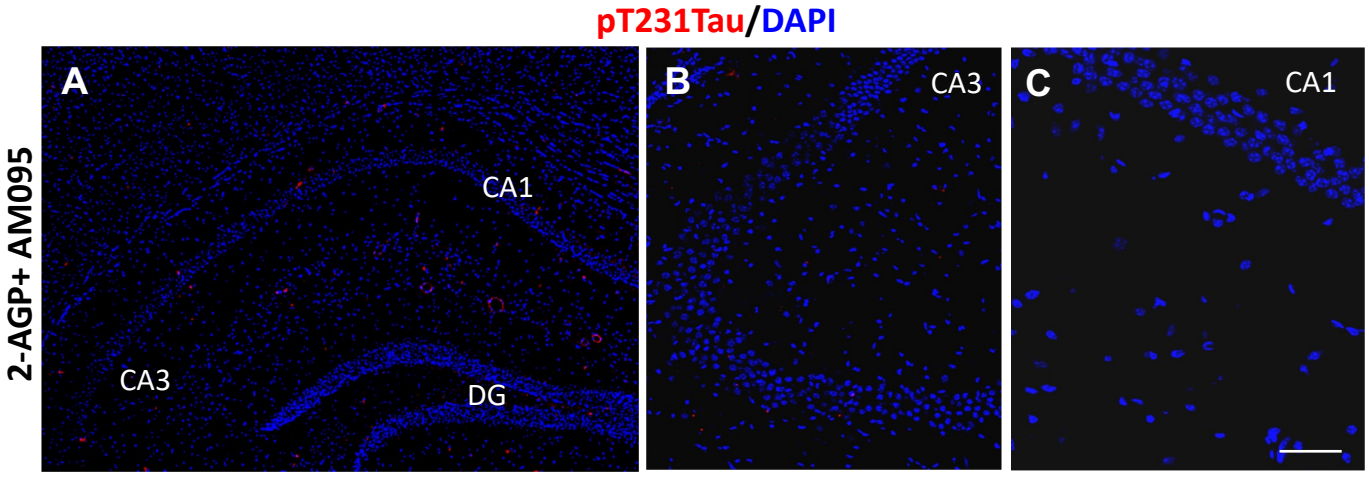
HC, healthy controls, AD, Alzheimer's disease. MMSE, Mini Mental State Examination.

Supplementary Fig.1



Supplementary Fig. 1. (**A**) Pearson's correlation between the 2-AG plasma levels and MMSE score in HC subjects, R=0; p (two tailed) = 0.15; (**B**) Pearson's correlation between the 2-AG plasma levels and MMSE score in AD subjects, R=0.05; p (two tailed) = 0.5.

Supplementary Fig.2



Supplementary Fig 2. Immunoreactivity of p-T231-tau in the hippocampus of mouse injected with the LPA1R antagonist AM095 before 2-AGP administration. Note the lowest pT231-tau expression.