Screening Assays for Aβ Aggregation Blockers: Potential for Alzheimer Disease Treatment

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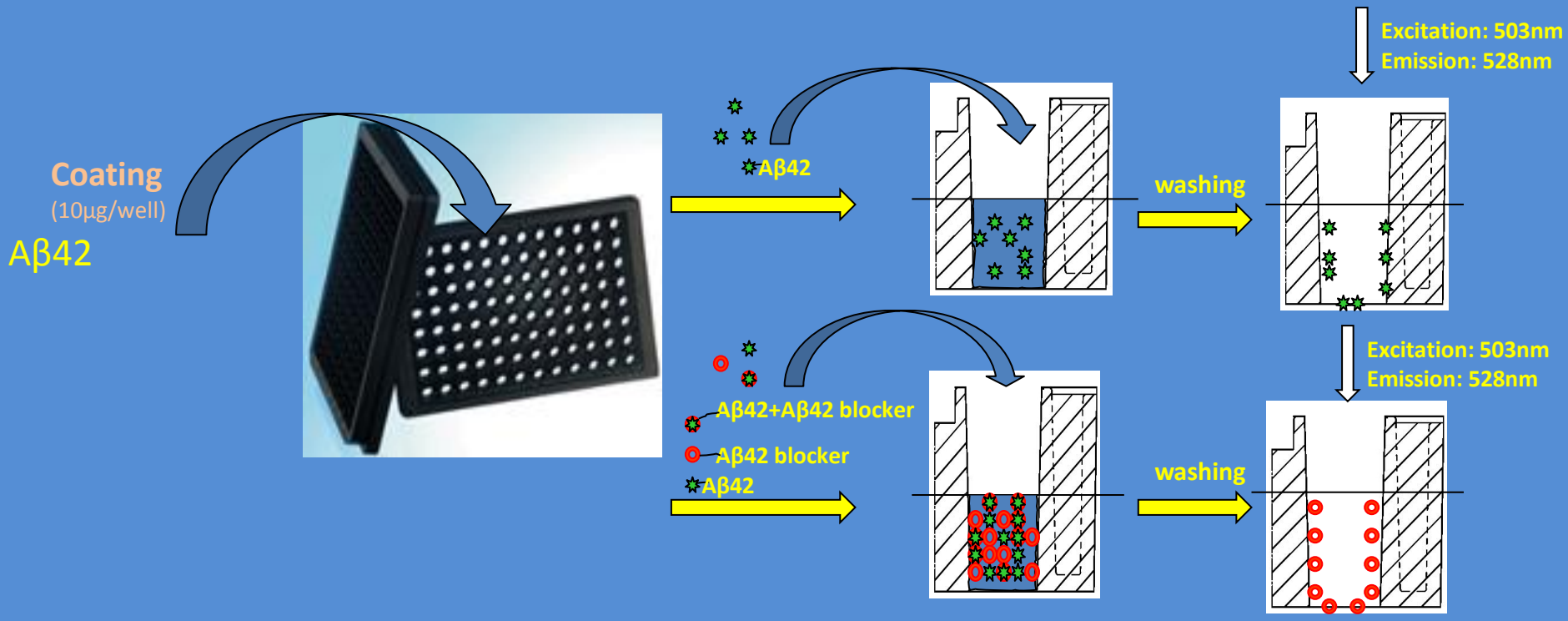
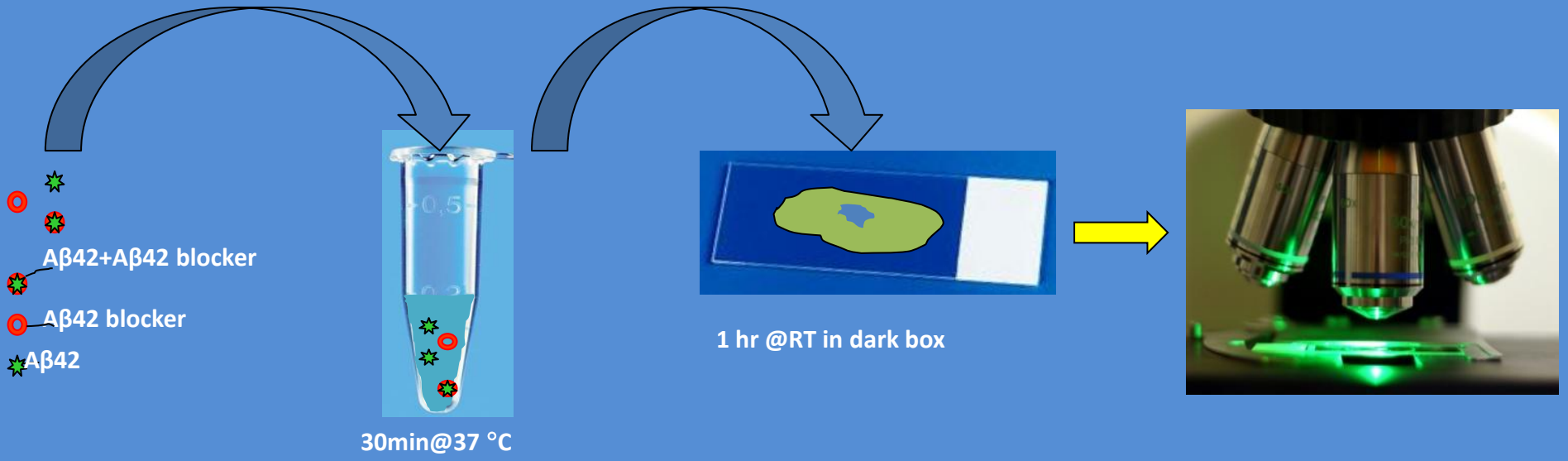
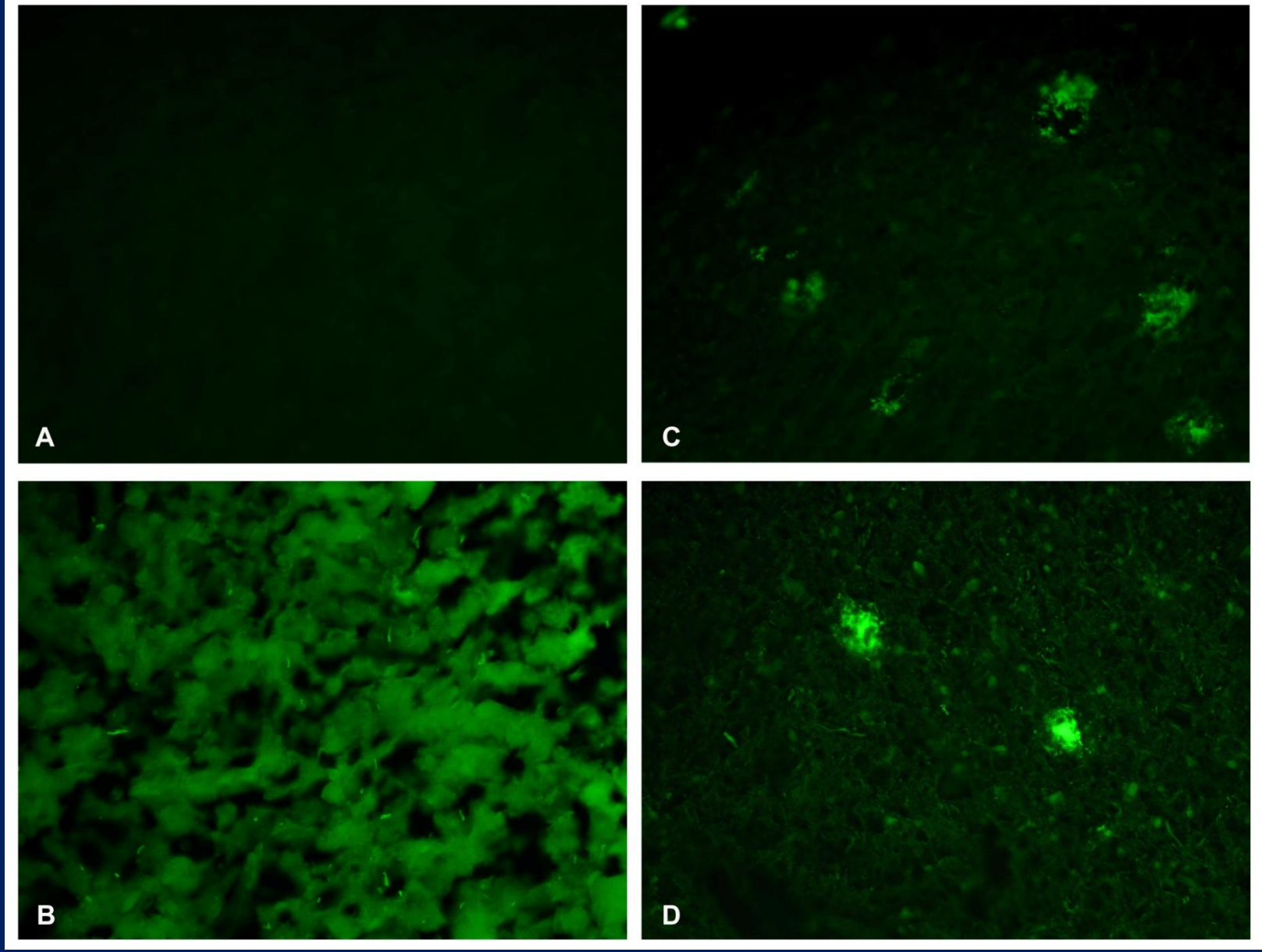
In Vitro Microplate Assay



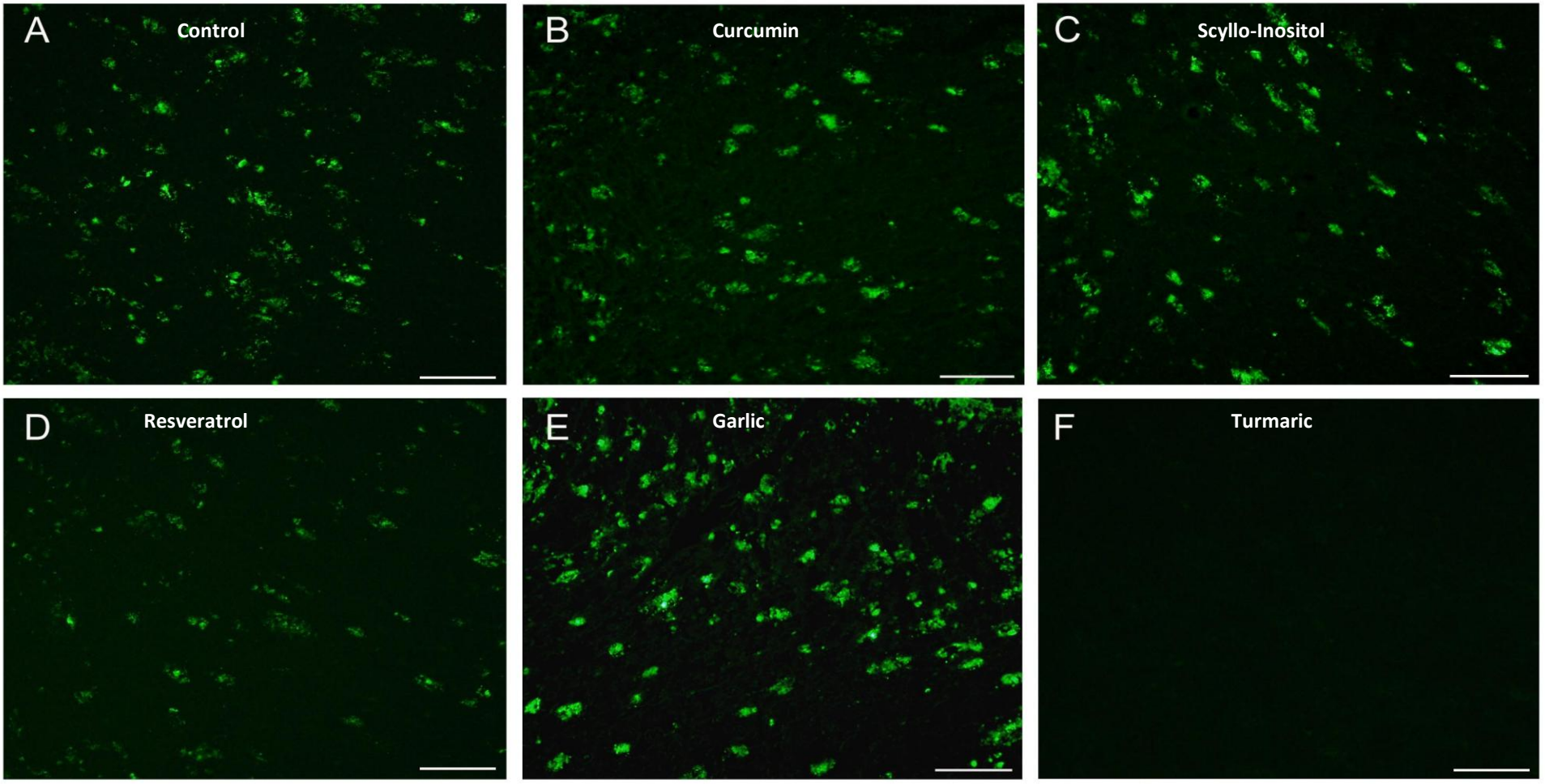
In Vitro Tissue-based Assay



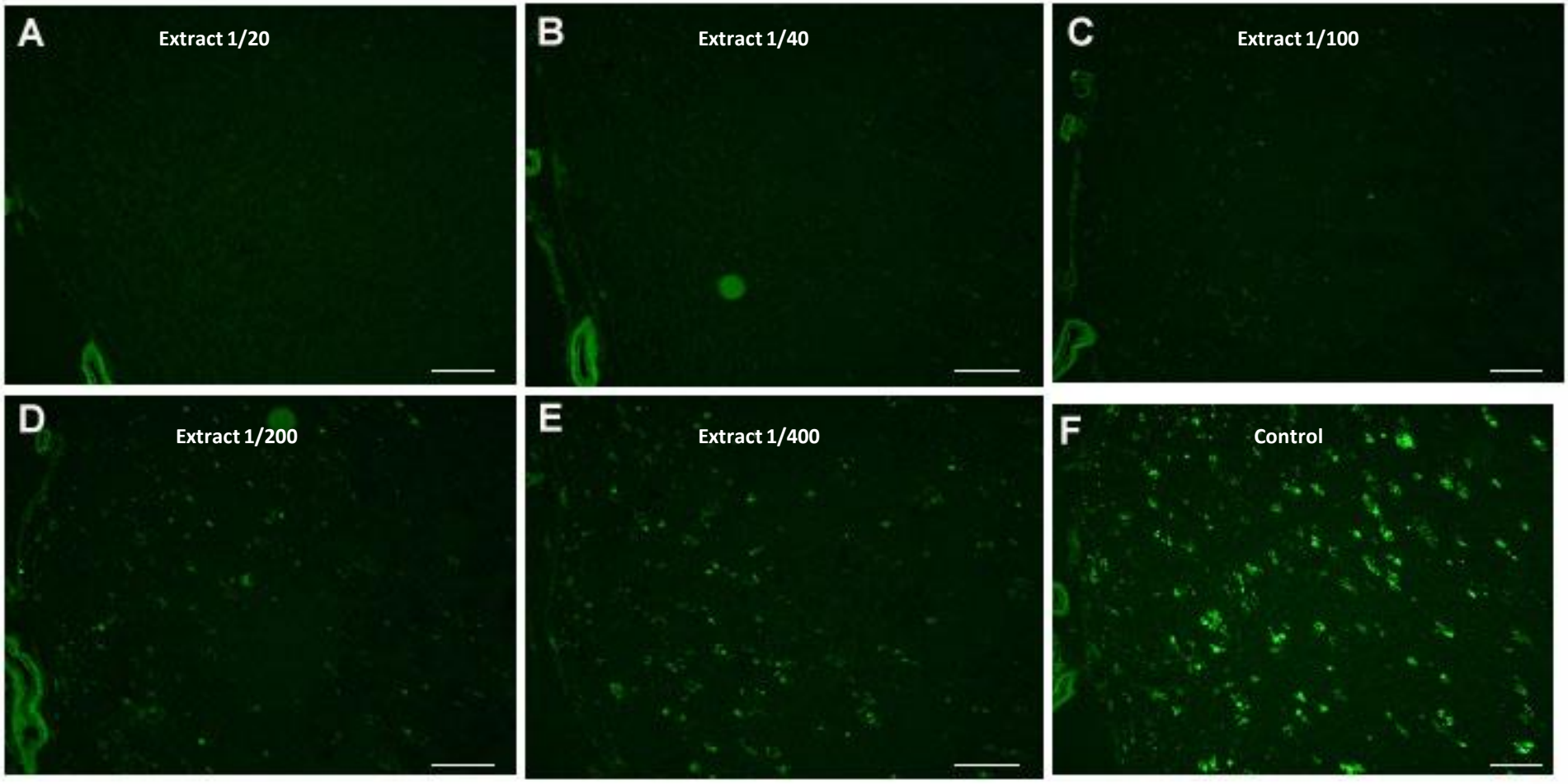


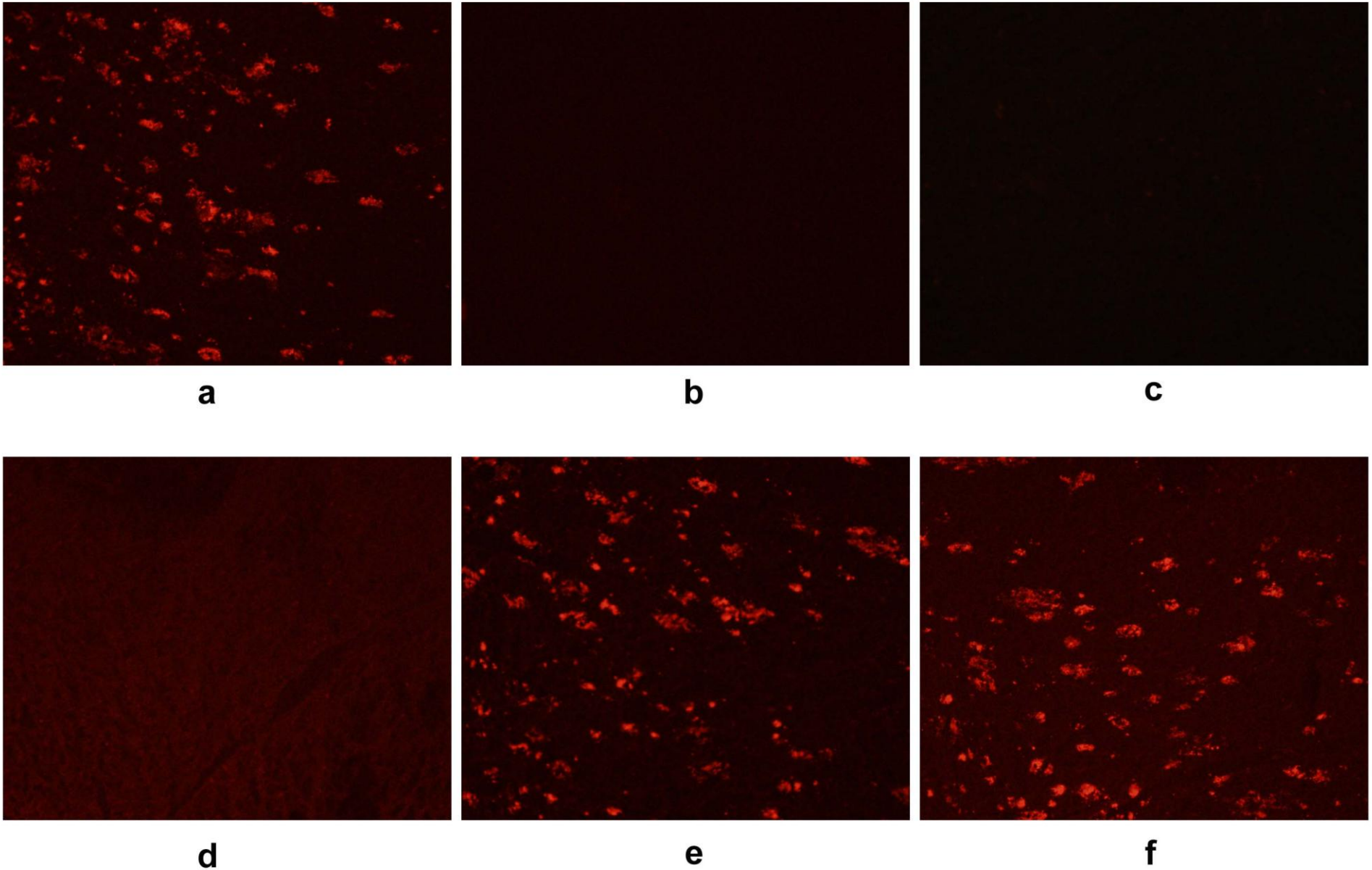
A: normal brain section stained by Aβ1-42-HiLyte 488 probe for one hour
B: normal brain section stained by Aβ1-42-HiLyte 488 probe for three hours
C: AD brain section stained by Aβ1-42-HiLyte 488 probe for one hour
D: AD brain section stained by Aβ1-42-HiLyte 488 probe for three hours

Turmaric blocks, garlic enhances, and curcumin and scyllo-inositol fail in human tissue assay



Concentration effect of ginger extracts





Other Fluorophore labeled Aβ42 Probing on AD brain Sections

Inhibitive Effect of Different Compounds or Extracts of Natural Products for Aβ aggregation

Promising Active Compounds	C/P ratio
Penta-galloyl-glucopyranose (PGG)	12
Weakly Active Compounds	
s-Diclofenac (ACS15/6)	45
Epigallocatechin gallate (EGCG)	50
Congo red	53
Resveratrol	185
Inactive Compounds	
scyllo-Inositol	2523
myo-Inositol	2523
Gingkolide A	1114
L-Rhamnose	25,000
Curcumin	1,230
Valproic Acid	1,577
Rhein	56,818
Emodin	56,818
Caryophellene	100,000
s-Aspirin (ACS14/7)	2,273
Aspirin	2,273
Diclofenac	2,273
Tramiprosate	3,266

Compound Library (Prestwick, Sigma, BioMol, and MicroSource) 3584 compounds

Possible Strong Active Extracts	C/P ratio
Spirulina Pacifica	4
Paeonia	10
Epimedium	12
Weakly Active Extracts	
Ginger	37
Rhubarb	47
Blueberry	162
Turmaric	170
Inactive Extracts	
Garlic	35*
Acorus	500
Gastrodia	500
Salvia	500
Foti	500
Eleuthero	500
Lovage Root	500
Rhizoma Corydalis	500
Notoginseng	500
American Ginseng	500
Panax Ginseng	500
Ganodorma	500
Rhizoma Coptidis	500
Extracts of Traditional Herbs	X41

Acknowledgements