

Table S1. Five drug approved by the US FDA for treatment in Alzheimer’s disease

commercial/ trivial name	IUPAC name
Tacrine	1,2,3,4- tetrahydro-9-acridinamine
Donepezil	2-[(1-Benzyl-4-piperidiny)methyl]-5,6-dimethoxy-1-indanone
Rivastigmine	3-[(1S)-1-(Dimethylamino)ethyl]phenyl ethyl(methyl)carbamate
Galantamine	(4aS,6R,8aS)-4a,5,9,10,11,12-Hexahydro-3-methoxy-11-methyl -6H-benzofuro[3a,3,2-ef][2]benzazepin-6-ol
Memantine	3,5-Dimethyl-1-adamantanamine

Table S2. Cholinergic inhibitors in clinical trials

commercial/ trivial name	IUPAC name
(-)-Phenserine	(3a <i>S</i> ,8a <i>R</i>)-1,3a,8-Trimethyl-1,2,3,3a,8,8a-hexahydropyrrolo[2,3- <i>b</i>]indol-5-yl phenylcarbamate
Ladostigil	(3 <i>R</i>)-3-(2-Propyn-1-ylamino)-2,3-dihydro-1 <i>H</i> -inden-5-yl ethyl(methyl)carbamate
AF267B	(2 <i>S</i>)-2-Ethyl-8-methyl-1-thia-4,8-diazaspiro[4.5]decan-3-one
EVP-6124	N-[(3 <i>R</i>)-1-Azabicyclo[2.2.2]oct-3-yl]-7-chloro-1-benzothiophene-2-carboxamide
GTS-21	(3 <i>E</i>)-3-(2,4-Dimethoxybenzylidene)-3,4,5,6-tetrahydro-2,3'-bipyridine

Table S3. β -secretase inhibitors in clinical trials

Commercial/ trivial name	IUPAC name
LY2811376	(4S)-4-[2,4-Difluoro-5-(5-pyrimidinyl)phenyl]-4-methyl-5,6-dihydro-4H-1,3-thiazin-2-amine
LY2886721	N-[3-[(4aS,7aS)-2-Amino-4a,5-dihydro-4H-furo[3,4-d][1,3]thiazin-7a(7H)-yl]-4-fluorophenyl]-5-fluoro-2-pyridinecarboxamide
MK-8931	(6S)-2-Amino-3,6-dimethyl-6-{4-[5-(1-propyn-1-yl)-3-pyridinyl]-2-thienyl}-5,6-dihydro-4(3H)-pyrimidinone

Table S4. γ -secretase inhibitors and modulators in clinical trials

Commercial/ trivial name	IUPAC name
Semagacestat (LY-450139)	(2S)-2-Hydroxy-3-methyl-N-[(2S)-1-{[(1S)-3-methyl-2-oxo-2,3,4,5-tetrahydro-1H-3-benzazepin-1-yl]amino}-1-oxo-2-propanyl]butanamide
Avagacestat (BMS-708163)	N ² -[(4-Chlorophenyl)sulfonyl]-5,5,5-trifluoro-N ² -[2-fluoro-4-(1,2,4-oxadiazol-3-yl)benzyl]norvalinamide
Begacestat (GSI-953)	5-Chloro-N-[(2S)-4,4,4-trifluoro-1-hydroxy-3-(trifluoromethyl)-2-butanyl]-2-thiophenesulfonamide
NIC5-15	(1R,2S,4S,5S)-6-Methoxy-1,2,3,4,5-cyclohexanepentol
CHF5074	1-(3',4'-Dichloro-2-fluoro-4-biphenyl)cyclopropanecarboxylic acid
E2012	(3E)-1-[(1S)-1-(4-Fluorophenyl)ethyl]-3-[3-methoxy-4-(4-methyl-1H-imidazol-1-yl)benzylidene]-2-piperidinone

Table S5 Drugs in clinical trials to prevent Aβ aggregation

Commercial/ trivial name	IUPAC name
Tramiprosate	3-Amino-1-propanesulfonic acid
Scyllo-inositol	(1r,2r,3r,4r,5r,6r)-1,2,3,4,5,6-Cyclohexanehexol
Epigallocatechin-3-gallate	(2R,3R)-5,7-Dihydroxy-2-(3,4,5-trihydroxyphenyl)- 3,4-dihydro-2H-chromen-3-yl 3,4,5-trihydroxybenzoate
PBT1/ Clioquinol	5-Chloro-7-iodo-8-quinolinol
Bexarotene	4-[1-(3,5,5,8,8-Pentamethyl-5,6,7,8-tetrahydro-2-naphthalenyl)vinyl]benzoic acid

Table S6.Other potential therapeutic strategies in AD

Commercial/ trivial name	IUPAC name
Leuco-methylthioninium (LMTX)	N,N,N',N'-Tetramethyl-10H-phenothiazine-3,7- diaminium
Tideglusib (NP-031112)	4-Benzyl-2-(1-naphthyl)-1,2,4-thiadiazolidine-3,5- dione
T-817MA	1-{3-[2-(1-benzothiophen-5- yl)ethoxy]propyl}azetidin-3-ol maleate
Latrepirdine	2,8-Dimethyl-5-[2-(6-methyl-3-pyridinyl)ethyl]- 2,3,4,5-tetrahydro-1H pyrido[4,3-b]indole
Pioglitazone	5-{4-[2-(5-Ethyl-2-pyridinyl)ethoxy]benzyl}-1,3- thiazolidine-2,4-dione