

A Diverse Phase 2 Pipeline of Alzheimer's Drugs Promises New Innovations and New Challenges

Alzheimer's Phase 2 Pipeline Requires New Approaches and Increased Attention

Summary of the Analysis

As a follow up to the Phase 3 Pipeline report, ResearchersAgainstAlzheimer's performed a detailed analysis of the Phase 2 Alzheimer's drug pipeline.

Our analysis found 57 drug compounds in this stage of development. Nearly twice as many mechanisms of action are being tested in Phase 2 than in Phase 3. This diverse pipeline is important as it will give physicians, persons with Alzheimer's and their loved ones new ways to combat the disease in the future. Additionally, 22 of the Phase 2 medications listed are either repurposed drugs or nutritional supplements.

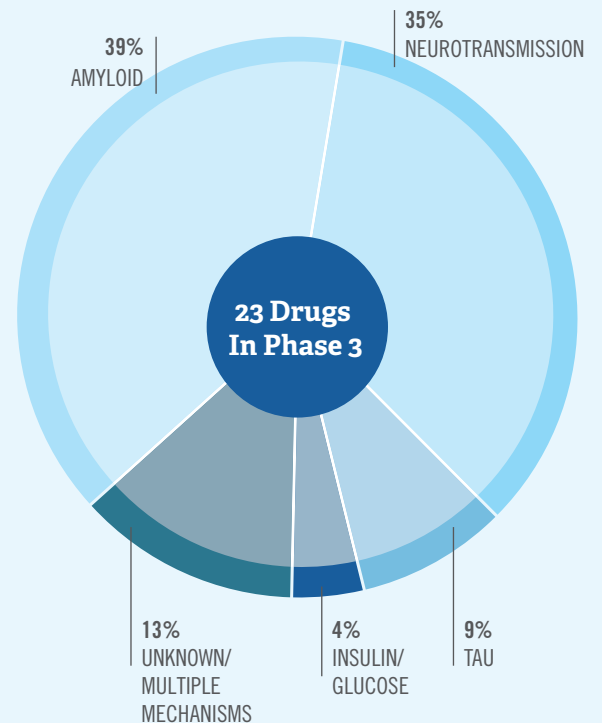
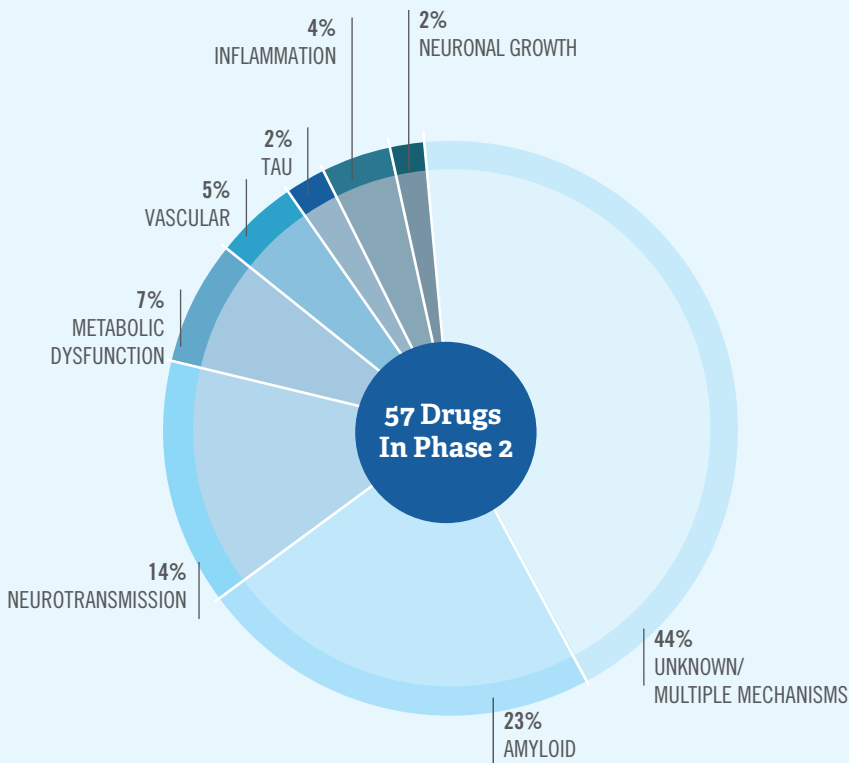
As the development of these compounds moves forward and the science behind Alzheimer's drug development continues to advance, policy makers, clinical researchers, drug developers and other Alzheimer's drug partners must build new clinical trial infrastructure and designs and develop innovative ways of testing viable treatments.

57 COMPOUNDS
IN PHASE 2¹

NEARLY **2X**

MECHANISMS OF ACTION IN
PHASE 2 VS. PHASE 3

The Alzheimer's Pipeline By the Numbers



1. RA2 defined Phase II drugs as drugs that are in Phase 2, Phase 2/3 and Phase 1/2

What Must Happen to Speed These Drugs to Patients



ROBUST BIOMARKERS

Robust biomarkers – i.e., a measurable indicator of the presence, severity or progression of a disease – that are able to identify individual pathological profiles and target personalized treatment options.



NEW ENDPOINTS

New endpoints for trials: many of the clinical trial scales used in today's Alzheimer's clinical trials are not sufficiently sensitive or specific in people in early stages of the disease.



GLOBAL CLINICAL TRIAL INFRASTRUCTURE

A standing clinical trial infrastructure that allows for rapid testing, consistent high-quality data, and prompt data disclosure.



INNOVATIVE CLINICAL TRIAL DESIGN

Innovative clinical trial designs that increase flexibility for drug developers, including adaptive trials, trials that are modified based upon patient outcomes, and trials for combination treatments.



INFORMATION SHARING

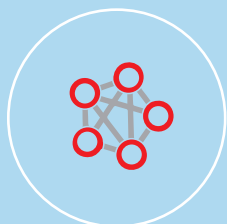
Proactive information sharing mechanisms and practices by which clinicians and researchers communicate to others in the research community what treatments work best with certain patient populations.



INCREASED RESOURCES: PUBLIC, PRIVATE AND PHILANTHROPIC

In 2014, the National Institutes of Health, U.S. Food and Drug Administration, pharmaceutical companies, and non-profit organizations launched the Accelerating Medicines Partnership, to expedite the identification of new targets for Alzheimer's and other major diseases. To date, the partnership has invested \$92.5 million in research funding for Alzheimer's alone.¹

In 2015, the Dementia Discovery Fund (DDF), a nimble venture capital partnership among the public, private and philanthropic sectors, launched to fund innovative dementia research companies and projects to bring novel drugs to market more quickly. DDF hopes to invest \$200 million in novel therapies in the next 15 years.² In Fiscal Year 2016, Congress increased NIH investment in Alzheimer's and other dementias by 40 percent.



CLINICAL TRIALS: THE GLOBAL ALZHEIMER'S PLATFORM (GAP) FOUNDATION

GAP was launched in 2015 to bring together academic researchers, pharmaceutical companies, nonprofit organizations, foundations, and governments around the world in order to reduce the time, cost, and risk of Alzheimer's clinical trials and thereby speed innovative medicines to those with or at risk of Alzheimer's disease.³



COMBINATION THERAPIES: LESSONS FROM THERAPEUTIC AREAS

In the mid-1990s, researchers discovered that a “cocktail therapy” – a combination of protease inhibitors and reverse transcriptase inhibitors – provided important treatment in combination for patients with HIV/AIDS,⁴ another complex, multi-factorial disease like Alzheimer's. Today, HIV/AIDS is no longer a “death sentence” but rather a manageable, chronic condition – and this kind of thinking could dramatically change Alzheimer's treatment types. Imagine a world where Alzheimer's treatment was as effective as it is for AIDS – providing hope for millions of people across the globe. In the field of oncology, combinations of chemotherapy, radiation and other treatment approaches have long been used to address cancer.

1. “Accelerating Medicines Partnership.” National Institutes of Health. <https://www.nih.gov/research-training/accelerating-medicines-partnership-amp>

2. “Launch of Dementia Discovery Fund – New Fund Raises \$100 Million to Deliver Novel Approaches to Treatment of Dementia.” <http://www.businesswire.com/news/home/20151020006622/en/Launch-Dementia-Discovery-Fund---Fund-Raises>

3. Global Alzheimer's Platform Foundation. <http://globalalzplatform.org/>

4. “Frontline: The Age of AIDS.” PBS. <http://www.pbs.org/wgbh/pages/frontline/aids/virus/fighting.html>

Methodology

This analysis was constructed through extensive research and interviews, including interviews with company executives about publicly available information, SEC filings, company reports, presentations at medical conferences, and media coverage. Additionally, academic research experts and select ResearchersAgainstAlzheimer's (RA2) members provided input and review of the analysis. However, the responsibility for the content of this report belongs solely to UsAgainstAlzheimer's, the convener of RA2, and not to any other organization or individual. Information presented in this analysis includes Alzheimer's drugs that are in Phase 2, Phase 1/2, Phase 2/3, and Phase 3. This information is subject to change given the nature of clinical trials and drug development. Our intention is to provide regular updates on the status of drug development in Alzheimer's, and we welcome input and corrections.

PHASE 2

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
AADvac1	Axon Neuroscience SE	Subcutaneous Injection	New drug	Active vaccine that raises antibodies against pathological tau protein	Phase 2	Patients with mild Alzheimer's disease	24 months	185	February 2019
Adenosine Triphosphate	Fundació ACE, Barcelona Alzheimer Treatment and Research Center	I.V.	New drug	Increases metabolic activity and reduces amyloid- β protein misfolding	Phase 2	Patients with moderate or severe Alzheimer's disease	3 months	20	November 2016
AGB 101 (Levetiracetam)	AgeneBio, Inc.; UCSF	Oral	Approved for other indications	Decreases abnormal electrical activity by acting as a neuromodulator and has been found to reduce A β generation	Phase 2	People with Alzheimer's disease, especially those with neuronal hyperactivity	12 weeks	36	December 2017
Anavex 2-73	Anavex Life Science Corp.	Oral and I.V.	New drug	Sigma-1 chaperone protein agonist, also may block tau hyperphosphorylation	Phase 2a	People with mild to moderate Alzheimer's disease	12 months	32	October 2016
BAC	Anavex Life Science Corp. Charsire Biotechnology Corp.; A2 Healthcare Taiwan Corporation	Oral Topical application	New drug New drug	Sigma-1 chaperone protein agonist, also may block tau hyperphosphorylation Unknown	Phase 2 Phase 2	People with mild to moderate Alzheimer's disease Patients with Alzheimer's disease	24 months (this is an additional 104 weeks on top of the 52 weeks from 2a) 12 weeks	32 125	November 2018 December 2017
BAN2401	Biogen; Eisai Co., Ltd.	I.V.	New drug	Monoclonal antibody against protofibrillar A β	Phase 2	People with mild cognitive impairment due to Alzheimer's disease and people with mild Alzheimer's disease dementia	18 months	800	July 2018
Benfotiamine	Burke Medical Research Institute; Columbia University; National Institute on Aging (NIA); Alzheimer's Drug Discovery Foundation	Oral	Supplement	Slows the decline in brain glucose metabolism via increased B1, also appears to reduce amyloid deposition via thiamine-independent mechanisms	Phase 2a	People with mild Alzheimer's disease dementia	12 months	76	November 2019

PHASE 2 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
BI 409306	Boehringer Ingelheim	Oral	New drug	Phosphodiesterase 9A inhibitor	Phase 2	Patients with Alzheimer's disease	12 weeks	288	June 2017
BI 425809	Boehringer Ingelheim	Oral	New drug	Unknown	Phase 2	Patients with cognitive impairment due to Alzheimer's disease	12 weeks	585	January 2019
Bryostatins 1	Neurotrope Bioscience, Inc.	I.V.	New drug	Protein Kinase C epsilon (PKCε) modulator and restores synaptic structures and functions	Phase 2	People with moderately severe to severe Alzheimer's disease	6 months (28 weeks)	150	May 2017
CPC-201	Chase Pharmaceuticals Corporation	Oral	New drug	Combination of an acetylcholinesterase inhibitor (AChEI) and a peripherally acting cholinergic blocker to reduce adverse events	Phase 2	Patients with dementia of Alzheimer's type	2-5 weeks (with optional extension)	20	August 2016
Crenzumab	Genentech, Hoffmann-La Roche	Subcutaneous injections	New drug	Fully humanised, monoclonal antibody designed to target all forms of beta amyloid	Phase 2	Individuals who carry the PSEN1 E280A autosomal-dominant mutation and do not meet the criteria for mild cognitive impairment due to Alzheimer's disease or dementia due to Alzheimer's disease and are, thus, in a preclinical phase of Alzheimer's disease	60 months	300	September 2020
Curcumin	Verdure Sciences, UCLA, VA	Oral (with exercise component)	Supplement	Anti-amyloid, anti-inflammatory, antioxidant, promotes neurogenesis, inhibitor of tau aggregation and promotes metal chelation	Phase 2	Study 1: People with mild cognitive impairment possibly in the early stages of Alzheimer's disease	12 months	80	December 2016
DAO1B	Chang Gung Memorial Hospital	Oral	New drug	NMDA enhancer	Phase 2	People with Alzheimer's disease	6 weeks	90	September 2016
E2609	Biogen, Eisai Co., Ltd.	Oral	New drug	BACE inhibitor	Phase 2	People with Mild Cognitive Impairment due to Alzheimer's Disease/Prodromal Alzheimer's Disease and mild to moderate dementia due to Alzheimer's Disease	18 months	700	January 2018

PHASE 2 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
Exenatide (Exendin-4)	National Institute on Aging	Subcutaneous injections	New drug	GLP-1 receptor agonist, also may reduce tau phosphorylation	Phase 2	Individuals with early-stage Alzheimer's disease or mild cognitive impairment	18 months	Minimum 40 (screening 100)	December 2018
Formoterol	Palo Alto Veterans Institute for Research; Alzheimer's Association; Mylan Inc.	Intranasal	Approved for other indications	Improve beta-2 adrenergic signaling	Phase 2	People with mild to moderate Alzheimer's disease	12 months	60	July 2016
Insulin Glulisine (Glulisine)	Health Partners Institute	Intranasal	Approved for other indications	Enhances brain insulin signaling	Phase 2	Patients with amnesic mild cognitive impairment and probable Alzheimer's disease/mild Alzheimer's disease	6 months	90	September 2017
Liraglutide	Novo Nordisk A/S, Imperial College London	Subcutaneous injections	Approved for other indications	GLP1 analog that increases glucose uptake into the brain	Phase 2	Mild Alzheimer's disease	12 months	206	January 2017
Lithium	New York State Psychiatric Institute, National Institute on Aging	Oral	Approved for other indications	Appears to affect a lot of the cell functioning; decreases tau phosphorylation, increases activity of stem cells, increases number of mitochondria, and increases autophagy	Phase 2	Patients with Alzheimer's disease suffering from agitation/aggression with or without psychosis	12 weeks	80	April 2019
LY3202626 (NAVIGATE)	Eli Lilly and Company	Oral	New drug	BACE inhibitor	Phase 2	People with mild Alzheimer's disease	12 months	500	August 2018
Meganatural-Az Grapeseed Extract (Meganatural-Az® GSPE)	Icahn School of Medicine at Mount Sinai; National Center for Complementary and Integrative Health (NCCIH)	Oral	Supplement	Attenuate tau protein misfolding	Phase 2	People with Alzheimer's disease	22 months	20	November 2017
Metformin	University of Pennsylvania	Oral	Approved for other indications	Increases insulin sensitivity of neurons and increases glucose metabolism, also may increase BACE1 transcription	Phase 2	People with mild cognitive impairment and dementia due to Alzheimer's disease	8 weeks	30	December 2016
Methylthioninium chloride (Methylene blue)	The University of Texas Health Science Center at San Antonio	Oral	New drug	Enhances mitochondrial activity, prevents against tau aggregation, and decreases oxidative stress	Phase 2	People with mild cognitive impairment and mild Alzheimer's disease	12 weeks	240	July 2018
Naproxen	Douglas Mental Health University Institute; McGill University; Johns Hopkins University	Oral	Approved for other indications	Reduces inflammation	Phase 2	Cognitively normal participants with a parental or multiplex first-degree family history of Alzheimer's disease dementia	48 months	200	December 2019

PHASE 2 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
Nasal Insulin	Wake Forest University, Alzheimer's Association	Intranasal	Approved for other indications	Increases insulin signaling in the brain	Phase 2	In people with Alzheimer's disease or amnesic mild cognitive impairment	4 months	36	September 2015
Nabilone	Sunnybrook Health Sciences Centre (repurposing of Nabilone) (2)	Oral	Approved for other indications	Partial agonist of cannabinoid receptor 1	Phase 2	People with moderate-to severe Alzheimer's disease that suffer from agitation	3 months (14 weeks)	40	December 2017
ORM-12741	Orion Pharma	Oral	New drug	Selective alpha-2C adrenoceptor-antagonist	Phase 2	People with symptoms of agitation/aggression due to Alzheimer's disease	12 weeks	300	February 2017
Perindopril	Sunnybrook Health Sciences Centre; Alzheimer's Drug Discovery Foundation	Oral	Approved for other indications	Angiotensin Converting Enzyme inhibitor	Phase 2	Patients with probable Alzheimer's Disease who have mild to moderate hypertension	12 months	240	August 2018
Pimavanserin	Acadia Pharmaceuticals	Oral	Approved for other indications	Antagonist and inverse agonist on serotonin 5-HT2A receptors	Phase 2	Patients with Alzheimer's disease psychosis	12 weeks	212	June 2016
PQ912	Probiomed AG	Oral	New drug	Inhibitor of glutamyl cyclase	Phase 2	People with Mild Cognitive Impairment due to Alzheimer's disease or mild dementia due to Alzheimer's disease	12 weeks	110	December 2016
Rasagiline	The Cleveland Clinic; TEVA Pharmaceuticals	Oral	Approved for other indications	Multi-model molecule with effects on monoamine oxidase inhibition, anti-inflammatory, and APP processing	Phase 2	Patients with mild to moderate Alzheimer's disease and positive FDG PET scans	6 months (28 weeks)	50	February 2017
Riluzole (aka SB-659032)	Sanofi, Rockefeller University	Oral	Approved for other indications	Modulates glutamate neurotransmission by inhibiting glutamate release and postsynaptic glutamate receptor signaling, inhibits voltage-gated sodium channels, and suppresses astroglycysis	Phase 2	People with mild Alzheimer's disease that have been on/are currently on donepezil	6 months	48	November 2018
S47445	Institut de Recherches Internationales Servier	Oral	New drug	AMPA receptor enhancer	Phase 2	Patients with mild to moderate Alzheimer's disease with depressive symptoms	5.5 months (24 weeks)	500	September 2017

PHASE 2 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
SUVN-502	Suven Life Sciences Ltd	Oral	New drug	Serotonin receptor subtype 6 antagonist	Phase 2a	People with moderate Alzheimer's disease receiving Donepezil HCl and either memantine HCl or Namenda XR@(the name drug brand of memantine HCl); this drug is eventually designed to be for all people with moderate Alzheimer's disease but as of right now the current project is showing that it can be used as adjunct treatment with Donepezil and Memantine	18 months	537	March 2017
Saracatinib (AZD0530)	AstraZeneca (for the compound), Yale University (for sponsor), Alzheimer's Therapeutic Research Institutes	Oral	New drug	Src family Kinase inhibitor with a high potency for Fyn inhibition, also may inhibit Aβ toxicity and phosphorylation of dendritic tau	Phase 2a	Patients with mild Alzheimer's disease based dementia	12 months	152	December 2017-February 2018
					Phase 2	People with Alzheimer's disease diagnosis	5 months	40	July 2016
Sargamostim (Leukine)	Genzyme, Sanofi, University of Colorado Denver	Subcutaneous injections	Approved for other indications	Synthetic form of granulocyte-macrophage colony-stimulating factor, also may activate microglia in response to amyloid pathology	Phase 2	Patients with Mild Cognitive Impairment due to Alzheimer's disease	6 months (28 weeks)	30	January 2018
					Phase 2	Patients with mild Alzheimer's disease	4 months	10	December 2016
Simvastatin + L-Arginine + Tetrahydrobiopterin	University of Massachusetts, Worcester	Oral	Approved for other indications	The combination of the three different drugs will increase the blood flow to their brains by opening blood vessels, and improve blood vessel and brain function	Phase 2	Patients with mild to moderate Alzheimer's disease already taking Donepezil	16.5 months (72 weeks)	136	December 2018
STA-1	Simphar Pharmaceutical	Oral	New drug	Phenylethanol glycosides which inhibit aggregation of Aβ	Phase 2	Patients with mild to moderate Alzheimer's disease who are receiving Donepezil or Rivastigmine Transdermal System	13 months (56 weeks)	450	March 2017
T-817MA	Toyama Chemical Co., Ltd.	Oral	New drug	Protects neurons against Aβ-induced neurotoxicity and promotes neurite outgrowth and preserves synaptic plasticity in the cortex and hippocampus	Phase 2	Patients with mild to moderate Alzheimer's disease	2 weeks	36	July 2016 with open label 26-week extension study to finish Q1 2017
T3D-959	T3D Therapeutics, Inc.	Oral	New drug	Nuclear receptor agonist targeting neuro-metabolic dysfunction	Phase 2a	Patients with mild to moderate Alzheimer's disease	2 weeks	36	July 2016 with open label 26-week extension study to finish Q1 2017

PHASE 2 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
Telmisartan	Sunnybrook Health Sciences Centre; Alzheimer's Drug Discovery Foundation	Oral	Approved for other indications	Angiotensin receptor blocker	Phase 2	Patients with probable Alzheimer's disease who have mild to moderate hypertension	12 months	240	August 2018
UB 311	United Neuroscience	Intramuscular injections	New drug	Vaccine targeting the clearance of brain β -Amyloid via the induction of anti β -Amyloid antibodies	Phase 2a	Patients with mild Alzheimer's disease	18 months (78 weeks)	45	Mid 2018
VX-745	EIP Pharma, LLC	Oral	New drug	P38a MAP Kinase inhibitor	Phase 2a	MCI due to Alzheimer's disease or mild Alzheimer's disease (i.e. "early Alzheimer's disease")	3 months	25	September 2016
Xanamem	Actinogen Medical; ICON Clinical Research	Oral	New drug	Blocks the activity of the 11-HSD1 enzyme to decrease cortisol in brain	Phase 2	People with mild dementia due to Alzheimer's disease	24 months	200	August 2018

PHASE 2 / 3

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
AC-1204	Accera, Inc.	Oral	New drug	Improves mitochondrial metabolism via chronic ketosis	Phase 2/3	Patients with mild to moderate Alzheimer's disease	6 months (26 weeks)	418	October 2017
Albumin + Immunoglobulin (Gamunex)	Grifols	I.V.	New drug	Immunosuppressant, possible anti-amyloid antibodies, albumin binding capacity	Phase 2b/3	Patients with mild to moderate Alzheimer's disease	14 months	400	End of 2017
CAD106	Novartis Pharmaceuticals Corporation	Intramuscular injections	New drug	Active vaccination to elicit an Ab-specific antibody response without T cell activation	Phase 2/3	People at risk for the onset of clinical symptoms of AD Alzheimer's disease	60 months	1340	August 2023
Coconut oil	University of South Florida; Fuel for Thought	Oral	Supplement	Provides ketones to the brain to use as an alternate fuel source	The traditional phases are not really applicable to this trial as it is a readily available supplement, but closest to a phase 2/3	People with mild to moderate Alzheimer's disease	8 months	Approved for 60, but only have had 21	December 2017

PHASE 2 / 3 (CON'T)

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
CNP520	Amgen, Inc., Novartis Pharmaceuticals Corporation	Oral	New drug	BACE inhibitor	Phase 2/3	People at risk for the onset of clinical symptoms of Alzheimer's disease	60 months	1340	August 2023
Icosapent Ethyl (IPE)	VA Office of Research and Development; University of Wisconsin, Madison	Oral	Supplement	A wide variety of neuroprotective properties: decreases inflammation, increases fluidity of cell membranes, neurotrophic factor signaling, direct action on beta-amyloid and tau pathology, increases neurogenesis, and improves vascular functioning and brain blood flow	Phase 2/3	Cognitively-healthy Veterans with increased risk for developing Alzheimer's disease due to parental history of the disease and increased prevalence of APOE4 allele	18 months	150	April 2021
JNJ-54861911	Janssen Research & Development, LLC	Oral	New drug	BACE inhibitor	Phase 2b/3	People age 60-85 who are asymptomatic but at risk for Alzheimer's dementia	54 months	1650	May 2023
Solanezumab DIAN-TU	Eli Lilly	I.V.	New drug	Monoclonal antibody that binds to soluble monomeric forms of amyloid-beta	Phase 2/3	People with inherited autosomal-dominant mutation in APP, presenilin-1, or presenilin-2	64 months (280 weeks)	210	December 2019

PHASE 1 / 2

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
Medium Chain Triglycerides	Université de Sherbrooke; Foundation Vitae	Oral	Supplement	Provides an alternative fuel source in the brain by raising ketone availability	Phase 1/2	Mild Alzheimer's disease	1 month	20	December 2016
Neurostem	Medipost Co Ltd.	I.V.	New drug	Stimulates neuron growth via mesenchymal stem cells	Phase 1/2a	Patients with mild to moderate Alzheimer's disease	5.5 months (24 weeks)	42	February 2018
RPn201	Regenera Pharma Ltd.; INC Research	Subcutaneous injection	New drug	Blocks several pro-inflammatory & protein-coupled receptors, targets and stimulates regenerative growth	Phase 1/2a	Healthy volunteers (part a and b) people with moderate to severe Alzheimer's disease (part c)	6 months	56	December 2016
UCMSCs (Human Umbilical Cord-Derived Mesenchymal Stem Cells)	South China Research Center for Stem Cell and Regenerative Medicine; Third Affiliated Hospital, Sun Yat-Sen University, Sun Yat-Sen Memorial Hospital of Sun Yat-Sen University; Guangzhou Psychiatric Hospital	I.V.	New drug	Reduces Aβ plaque deposition and soluble Aβ via stem cells and decreases microglial systemic inflammation	Phase 1/2	Patients with Alzheimer's disease	6 months (26 weeks)	40	October 2019

PHASE 3 UPDATES

Product Name	Manufacturer	Route of Administration	FDA Status	MOA (Mechanism of Action)	Phase of Drug Development	Target Population	Length of Current Trial	Number of Trial Participants	Estimated Trial Completion
AZD3293 (aka LY3314814) AMARANATH	AstraZeneca, Eli Lilly & Co.	Oral	New drug	Inhibitor of BACE1	Phase 3	People with early Alzheimer's disease	24 months	2202	August 2021
AZD3293 (aka LY3314814) DAYBREAK-ALZ	AstraZeneca, Eli Lilly & Co.	Oral	New drug	Inhibitor of BACE1	Phase 3	People with mild Alzheimer's disease dementia	18 months (78 weeks)	1899	April 2021
Belsonra (Suvorexant or MK-4305)	Merck Sharp & Dohme Corp.	Oral	Approved for other indications	Orexin receptor antagonist	Phase 3	People with Alzheimer's disease that suffer from insomnia	14 months	260	July 2017
E2609	Biogen, Eisai Co., Ltd.	Oral	New drug	BACE inhibitor	Phase 3	Patients with early Alzheimer's disease	Unknown	Unknown	Unknown
ITI-007	Intra-Cellular Therapies, Inc.	Oral	New drug	Combination of a serotonin 5-HT2A receptor antagonist, dopamine receptor phosphoprotein modulator, glutamatergic modulator, and serotonin reuptake inhibitor	Phase 3	People with Alzheimer's disease that suffer from agitation	4 weeks	360	August 2018
Solanezumab Expedited on PRO	Eli Lilly	I.V.	New drug	Monoclonal antibody that binds to soluble monomeric forms of amyloid-beta	Phase 3	People with prodromal Alzheimer's disease	24 months	2450	April 2021

RA2 PIPELINE END NOTES

PHASE 2

AADvac1

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Adenosine Triphosphate

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Anavex 2-73

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BAC

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BI 409306

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Researchers**4**gainst Alzheimer's

ResearchersAgainstAlzheimer's (RA2) is a network of more than 400 Alzheimer's researchers established by UsAgainstAlzheimer's to advocate for federal research funding and policy reform in order to stop Alzheimer's disease. RA2 believes that an effective treatment for Alzheimer's is within reach if governments, industry, and citizens are willing to commit the resources and institute the policy changes that are necessary.

Us**4**gainst Alzheimer's

UsAgainstAlzheimer's (USA2) is an innovative non-profit organization demanding – and delivering – a solution to Alzheimer's. Driven by the suffering of millions of families, UsAgainstAlzheimer's presses for greater urgency from government, industry and the scientific community in the quest for an Alzheimer's cure – accomplishing this through effective leadership, collaborative advocacy, and strategic investments.

Our intention is to provide regular updates on the status of drug development in Alzheimer's, and we welcome input and corrections.
Contact: ymiller@highlanterngroup.com

**Researchers4against
Alzheimer's**

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Alzheimer's**