

Potential Disease-Modifying Therapies in the Parkinson's Disease Clinical Trial Pipeline

last update: March 11, 2019

Goal: Enable PD community to more easily **identify recruiting, planning and funding needs** for high-priority research towards a cure.

Compiled by PD research advocates Sue Buff & Gary Rafaloff

Source: ClinicalTrials.gov, The Cure Parkinson's Trust-Linked Clinical Trials Programme (CPT-LCT), Michael J. Fox Foundation (MJFF), industry & academic websites, researchers & advocates (Simon Stott: ScienceofParkinsons.com, Kevin McFarthing: The Hope List-Parkinson's Therapies in Development)

Send additions/corrections to: SueBuff@outlook.com

File available at PDTrialTracker.info (Collaboration page)

Note 1: Therapies & trials are listed below in no particular order. Similar therapy types are grouped together by color code for easier viewing.

Note 2: Additional data for listed trials, including **location and eligibility**, is available on ClinicalTrials.gov (reference Study ID # in table below).

ACTIVE, PLANNED & RECENTLY COMPLETED CLINICAL TRIALS of Potential Disease-Modifying Therapies for PD											
Includes 15 planned, 56 active, and 10 ended trials. Compiled March 11, 2019.											
Therapy (*=repurposed compound)	Description	Phase	Study Title	Study ID # on ClinicalTrials.gov	Sponsor & Collaborators	Recruiting Status	Study Start Date	Est. Study End Date	Estimated Enrollment	More Info	
Isradipine*	Calcium channel blocker	Phase 3	Efficacy of Isradipine in Early Parkinson Disease (STEADY-PD III)	NCT02168842	Univ. of Rochester, NINDS, MJFF, PSG	active, not recruiting	Sep-14	Nov-19	336	Neurology.org April 2018 update on STEADY-PD III	MJFF Blog 6.29.16
Inosine*	Antioxidant / Nutritional supplement	Phase 3	Study of Urate Elevation in Parkinson's Disease, Phase 3 (SURE-PD3)	NCT02642393	M. Schwarzschild, Mass. General Hospital, PSG, MJFF, UofRochester, NINDS	terminated Dec-18	Jun-16	Oct-19	270	MJFF Blog 9.1.15	Inosine Phase 2 completed 12/12 (NCT00833690)
EPI-589*	Treats childhood mitochondrial diseases	Phase 2A	Safety and Biomarker Study of EPI-589 in Parkinson's Disease	NCT02462603	BioElectron (formerly Edison Pharma), CPT-LCT incl. VARI	active, not recruiting	Mar-16	Dec-18	40 (44 actual)	CPT - Linked Clinical Trials Initiative	alsnewstoday 2018/10/03 epi-589-shows-positive-results-als-patients-phase-2a
EPI-743	Targeted at mitochondrial and other neuro diseases	Phase 2B planned	Neurology.org April 2016 EPI-743 Phase 2A results	Phase 2A completed (NCT01923584)	Edison Pharma					CPT - LCT Program (Edison Pharma, Phase 2B)	
UDCA*	Used to treat liver disease. Acts to recover mitochondrial function.	Phase 1	Brain Bioenergetics in Parkinson's Disease and Response to Repeated Oral UDCA Treatment	NCT02967250	Univ. of Minnesota	recruiting	Jun-17	Mar-19	20		
UDCA*	Used to treat liver disease. Acts to recover mitochondrial function.	Phase 2	Trial of Ursodeoxycholic Acid (UDCA) for Parkinson's Disease: The "UP" Study	NCT03840005	Sheffield Hosp. NHS Foundation Trust, U. of Sheffield, PRO.MED.CS Praha, J P Moulton Fndn, CPT-LCT inc. VARI	recruiting	Dec-18	Sep-20	30	CPT-LCT Program: UDCA and PD	scienceofparkinsons.com 2019/02/04 The UP Study in PD
Simvastatin*	Cholesterol-lowering drug	Phase 2	Simvastatin as a Neuroprotective Treatment for Moderate Parkinson's Disease (PD STAT)	NCT02787590	Plymouth Hospitals NHS Trust, CPT-LCT inc. VARI, University of Plymouth, Jon Moulton Charitable Trust	active, not recruiting	Mar-16	May-20	198 (235 actual)	CPT - LCT Program: Simvastatin trial - the facts	Journal of PD article 11.1.17 on rationale for Simvastatin trial
Lovastatin*	Cholesterol-lowering drug	Phase 2	Lovastatin as a Neuroprotective Treatment for Early Stage Parkinson's Disease	NCT03242499	National Taiwan University Hospital,	recruiting	May-17	Dec-19	80	scienceofparkinsons.com 2017/06/20 cholesterol statins and PD	
Deferiprone*	Used to reduce iron levels in blood after transfusions	Phase 2	Conservative Iron Chelation as a Disease-modifying Strategy in Parkinson's Disease (FAIRPARKII)	NCT02655315	University Hospital-Lille, European Commission, ApoPharma	recruiting	Feb-16	Feb-21 (was Feb-18)	338	CPT - Deferiprone FAIRPARK2 trial	FAIRPARK2 trial information
Deferiprone*	Used to reduce iron levels in blood after transfusions	Phase 2	Study of Parkinson's Early Stage with Deferiprone (SKY)	NCT02728843	ApoPharma	active, not recruiting	Jul-16	Dec-19 (was Jul-18)	140	CPT - LCT Program: Deferipone trial - the facts	
Exenatide (Bydureon)*	Type 2 Diabetes drug (GLP-1 agonist)	Phase 2 completed	Trial of Exenatide for Parkinson's Disease (EXENATIDE-PD) View results: CPT site & Lancet.	NCT01971242	University College London, CPT-LCT inc VARI, MJFF	completed	Jun-14	Aug-16	60	CPT - Linked Clinical Trials Initiative	MJFF Exenatide grant
Exenatide (Bydureon)*	Type 2 Diabetes drug (GLP-1 agonist)	Phase 3 planned	Journal of PD 2017/08/08 Exenatide Phase 2 study commentary							scienceofparkinsons.com 2019/01/24 Exenatide Exosomes	scienceofparkinsons.com 2017/08/08 Exenatide: An editorial

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Exenatide (Bydureon)*	Type 2 Diabetes drug (GLP-1 agonist)	Phase 1	Effects of Exenatide on Motor Function and the Brain	NCT03456687	University of Florida, NINDS	recruiting	Jun-18	Apr-21	20	Peptron (Korea) evaluating SR Exenatide PT302 for PD	
Liraglutide*	Type 2 Diabetes drug (GLP-1 agonist)	Phase 2	Safety and Efficacy of Liraglutide in Parkinson's Disease	NCT02953665	Cedars-Sinai Medical Center, CPT - LCT inc VARI, Novo Nordisk A/S	recruiting	Apr-17	Sep-19	57	CPT - Linked Clinical Trials Initiative - Liraglutide trial	
Lixisenatide*	Type 2 Diabetes drug (GLP-1 agonist)	Phase 2	Study to Evaluate the Effect of Lixisenatide in Patients With Parkinson's Disease (LixiPark)	NCT03439943	University Hospital, Toulouse, CPT - LCT inc VARI, Reseau NS-Park, EUCLID, Sanofi	recruiting	Jun-18	Dec-21	158	CPT - Linked Clinical Trials Initiative - Lixisenatide trial	
Semaglutide*	Type 2 Diabetes drug (GLP-1 agonist). New formulation of Exenatide	Phase 2	(Semaglutide) GLP1R in Parkinson's Disease (GIPD)	NCT03659682	Oslo Univ. Hospital, Novo Nordisk	not yet recruiting	Jan-19	Dec-24	120	Neuroprotective effects of Semaglutide in MPTP PD mouse model (Neuropeptides, Oct. 18)	
MSDC-0160* (Mitoglitazone)	Orig. developed to treat Type 2 diabetes. May improve mitochondrial function in PD.	Planned			CPT - LCT, VARI, Metabolic Solutions collaboration					www.msdrx.com/pipeli ne/msdc-0160	
SR Exenatide (PT302)	Type 2 Diabetes drug (GLP- 1 agonist)	Planned Phase 2			Peptron					Peptron (Korea) evaluating SR Exenatide (PT302) for PD: planning Phase 2	
NLY01	GLP-1 agonist	Phase 1	A Phase 1 Study to Assess the Safety of NLY01 in Healthy Subjects (NLY01- H1)	NCT03672604	Neuraly (John Hopkins startup)	recruiting	Sep-18	May-19	64	parkinsonsnewstoday 2018/07/20: neuraly to advance nly01 into clinical trial	scienceofparkinsons.co m/2018/06/13/exenatid e/
Ambroxol*	Used to prevent build-up of excess mucous in respiratory diseases	Phase 2A	Ambroxol in Disease Modification in Parkinson Disease (AIM-PD)	NCT02941822	University College, London, CPT-LCT inc. VARI, John Black Charitable Trust, PRO.MED.CS Praha a.s - Czech Republic	active, not recruiting	Dec-16	Apr-18	20	CPT - Linked Clinical Trials Initiative	
Ambroxol*	Used to prevent build-up of excess mucous in respiratory diseases	Phase 2	Ambroxol as a Treatment for Parkinson's Disease Dementia	NCT02914366	Lawson Health Research Inst., Weston Foundation, U. of Western Ontario, London Health Sciences Centre	recruiting	Nov-15	Dec-18	75		
NAC (n-Acetyl Cysteine)*	Treats acetaminophen overdose. Used to loosen mucous in cystic fibrosis & COPD.	phase unspecified	Physiological Effects of Nutritional Support in Patients with PD	NCT02445651	Thomas Jefferson Univ., CPT-LCT candidate	active, not recruiting	Mar-14	Dec-18	65		
NAC (n-Acetyl Cysteine)*	Treats acetaminophen overdose. Used to loosen mucous in cystic fibrosis & COPD.	Planned	Trial in design (CPT: NAC Trial-The Facts)	NAC Phase 1 completed 2012 (NCT01427517)	Cure Parkinson's Trust Linked Clinical Trial Program	planned			60		
RO7046015 (PRX002)	Alpha-synuclein focus; passive immunotherapy (Mab to aSN)	Phase 2	A Study to Evaluate the Efficacy of RO7046015 in Participants With Early Parkinson's Disease (PASADENA)	NCT03100149	Hoffman-La Roche, Prothena Biosciences	active, not recruiting	Jun-17	Feb-21	300 (316 actual)	Prothena 4.2.17 press release re: Phase 1b results (NCT02157714)	Prothena 7.5.17 press release re: Phase 2 study (NCT03100149)
BIIB054	Alpha-synuclein focus; passive immunotherapy	Phase 2	Evaluating the Safety, Pharmacokinetics, and Pharmacodynamics of BIIB054 in Participants With Parkinson's Disease (SPARK)	NCT03318523	Biogen (BIIB054 Phase 1 NCT02459886 completed 11/17. Result info: scienceofparkinsons.com/ 2018/04/25/biib054/)	recruiting	Jan-18	Apr-22	311	12.20.17 mini-review of PD alpha-syn initiatives	MJFF Blog 8/14/15: Two more-alpha-synuclein- drugs-in-clinical-trials

Therapy (*=repurposed compound)	Description	Phase	Study Title	Study ID # on ClinicalTrials.gov	Sponsor & Collaborators	Recruiting Status	Study Start Date	Est. Study End Date	Estimated Enrollment	More Info
BIIB054	Alpha-synuclein focus	Phase 1	A Study to Evaluate Safety, Tolerability, Pharmacokinetics, and Pharmacodynamics of BIIB054 in Japanese Participants With Parkinson's Disease	NCT03716570	Biogen	not yet recruiting	Feb-19	Aug-21	24	https://www.biogen.com/en_us/pipeline.html
Affitope PD01A	Alpha-synuclein vaccine; active immunotherapy	Phase 1B completed	Follow-up Study to Assess a Second Boost Immunization With AFFITOPE® PD01A With Regard to Safety and Clinical Activity (AFF008AA) (completed)	NCT02618941	Affiris AG (more info at scienceofparkinsons.com/2016/09/11/vaccine-for-parkinsons-affiris-update/)	completed	Feb-16	Feb-17	26	MJFF website: Therapies in Development ParkinsonsNewsToday 5.18.18 Potential-parkinsons-vaccine-affitope-pd01a-shows-promising-long-term-results
Affitope PD03A	Alpha-synuclein vaccine; active immunotherapy	Phase 1 completed	Study Assessing Tolerability and Safety of AFFITOPE® PD03A in Patients With Early Parkinson's Disease (AFF011) (completed)	NCT02267434	Affiris AG	completed	Dec-14	Aug-16	36	ParkinsonsNewsToday 6.15.17 Parkinson's vaccine triggers solid immune response, Phase 1 clinical trial shows Affiris press release 6.7.17 re: results of clinical study using AFFITOPE PD03A (SYMPATH funded)
Lu AF82422	antibody inhibiting alpha-synuclein	Phase 1	Lu AF82422 in Healthy Non-Japanese and Japanese Subjects and in Patients With Parkinson's Disease	NCT03611569	H. Lundbeck A/S	recruiting	Jul-18	Mar-20	44	Lundbeck 8.7.18 press release re: Phase 1 Lu AF82422
MEDI1341	alpha-synuclein antibody	Phase 1	Single Ascending Dose Study of MEDI1341 in Healthy Volunteers	NCT03272165	AstraZeneca, Covance, MMS Holdings, Inc, Catalent	recruiting	Oct-17	Nov-19	40	AstraZeneca 8.29.17 press release re: MEDI1341
Glycerol Phenylbutyrate	Alpha-synuclein focus	Phase 1	Phenylbutyrate Response as a Biomarker for Alpha-synuclein Clearance From the Brain	NCT02046434	Univ. of Colorado-Denver	active, not recruiting	Jan-14	Apr-19 (was Sep-18, Feb-15)	40	MJFF research grant related to this study
PBT 434	designed to inhibit aggregation of alpha-synuclein & tau	Phase 1	A Phase 1 Single and Multiple Ascending Dose Study of PBT434 in Healthy Volunteers	not on C.T.gov	Prana Biotechnology (has partnership with Takeda)	prana-doses-first-patients-in-phase-1-trial (7.5.18)				Prana to-commence-phase-1-clinical-trial-of-pbt434 (6.4.18) Science of PD 2017/04/19 Prana
ENT-01 (synthetic version of squalamine)	prevent alpha-syn clustering	Phase 1/2A	Evaluation of Safety and Tolerability of ENT-01 for the Treatment of Parkinson's Disease Related Constipation (RASMET)	NCT03047629	Enterin	completed	May-17	Jun-18	50 (actual)	enterininc.com/rasmet/Completed Phase 2A study in PD scienceofparkinsons.com/2018/06/29/trodsuq uemine/
ENT-01	prevent alpha-syn clustering	Phase 2B	Orally Administered ENT-01 for Parkinson's Disease-Related Constipation (KARMET)	NCT03781791	Enterin	recruiting	Dec-18	Nov-19	72	press release 2019/1/9: karmet-study-begins-enrollment
NPT200-11 (UCB-1332); NeuroPore/UCB	Alpha-synuclein vaccine	Phase 1B planned			NPT200 Phase 1B planned by UCB/Neuropore per MJFF update on alpha-syn trials 7/10/17					www.neuropore.com/p rograms/ Neuropore Announces Successful Completion of Phase I with NPT200-11, 3.22.16 (NCT02606682)
NPT088 (Proclara)	Alpha-synuclein vaccine	plan depends on Alz phase 1B	Awaiting results from Alzheimer's phase 1B NCT03008161 (est. completion 4/19) per MJFF update on alpha-syn trials 7/10/17							Ref. MJFF NPT088 research grant Proclara Biosciences - Our Programs (Phase 1B for Alzheimer's NCT03008161)
MCC950	NLRP3 inhibitor (NLRP3 inflammasome contains NLRP3 protein)	planned Phase 1 early '19	hypothesis that small molecule, MCC950, may reduce spread of alpha-syn in PD		Inflazome (MJFF & Shake It Up Australia provided earlier funding)					https://scienceofparkinsons.com/2018/11/22/nlrp3/ inflazome.com news 2018/10/30 MCC950
DNL201 (Denali lead candidate for PD per website)	LRRK2 inhibitor / Lysosomal function enhancer	Phase 1B	Study to Evaluate DNL201 in Subjects With Parkinson's Disease	NCT03710707	Denali Therapeutics (www.denalitherapeutics.com/pipeline)	recruiting	Dec-18	Sep-19	30	Denali 8.1.18 press release on results of DNL201 Phase 1 scienceofparkinsons.com: 2018/12/12 Denali Phase 1b clinical trial starts
DNL151 (Denali backup candidate for PD)	LRRK2 inhibitor	Phase 1	dose escalation study	not on CT.gov	Denali	active (Netherlands)				ref. Denali 8.1.18 press release last sentence www.denalitherapeutics.com/pipeline

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LTI-291	Gcase enzyme activator	Phase 1B	Trial to test safety and tolerability of LTI-291 in Parkinson's patients with a heterozygous mutation in the GBA1 gene	www.trialregister.nl/trial/7061 (not on CT.gov)	Lysosomal Therapeutics, Allergan, Silverstein Foundation (study in the Netherlands)		Jun-18	Oct-18	15	www.lysosomaltx.com (Phase 1A completed; Phase 2B in progress)	www.allergan.com - Allergan Option Arrangement with Lysosomal (LTI). 1.9.17
GZ/SAR402671 (Venglustat)	Gene therapy	Phase 2	A Global Study to Assess the Drug Dynamics, Efficacy, and Safety of GZ/SAR402671 in Parkinson's Disease Patients Carrying a GBA Mutation (MOVES-PD)	NCT02906020	Genzyme, a Sanofi Company	recruiting	Dec-16	Jul-22	243	Sanofi Initiates Phase 2 Clinical Trial to Evaluate Therapy for Genetic Form of Parkinson's Disease (2/14/17)	Feb 2017 publication on preclinical results
AAV-hAADC-2	Gene therapy	Phase 1/2	AADC Gene Therapy for Parkinson's Disease	NCT02418598	Jichi Medical University, Takara Bio Inc., Gene Therapy Research Institution Co.	recruiting	Apr-15	Oct-18 / Jan-22	6		
VY-AADC01	Gene therapy	Phase 1	Safety Study of AADC Gene Therapy (VY-AADC01) for Parkinson's Disease	NCT01973543	Voyager Therapeutics, UCSF, Veristat, Feinstein Institute, Oregon Health and Science U.	active, not recruiting	Oct-13	Dec-19	15 (actual)	MJFF grant info on this study	Preliminary positive Phase 1 results announced 9/17.
VY-AADC01	Gene therapy	Phase 1	Safety and Efficacy Study of VY-AADC01 for Advanced Parkinson's Disease	NCT03065192	Voyager Therapeutics	active, not recruiting	May-17	Dec-21	16	www.voyagertherapeutics.com/our-approach-programs/pipeline/	
VY-AADC02	Gene therapy	Phase 2	VY-AADC02 for Parkinson's Disease With Motor Fluctuations	NCT03562494	Voyager Therapeutics	recruiting	Jun-18	Dec-20	42	parkinsonsnewstoday.com, 2018/07/20, parkinsons gene therapy vy-aadc in phase 2 trial	
ProvSavin	Gene therapy	Phase 1/2	Long Term Safety and Efficacy Study of ProSavin in Parkinson's Disease	NCT01856439	Oxford BioMedica	active, not recruiting	May-11	May-22	15		
AAV2-GDNF	Gene therapy / Neurotrophic factors	Phase 1	AAV2-GDNF for Advanced Parkinson's Disease	NCT01621581	NINDS	active, not recruiting	May-12	Dec-27	actual: 25; est. was 100	enrollment target lowered early 2018	AAV2-NTN for PD: Lessons Learned (2016 article)
CDNF (Cerebral Dopamine Neurotropic Factor)	Gene therapy / Neurotrophic factors	Phase 1/2	Clinical Study to Test the Safety of CDNF by Brain Infusion in Patients With Parkinson's Disease	NCT03295786	Herantis Pharma Plc., Renishaw Plc.	recruiting	Sep-17	Nov-19	18	Study website (TreatER project. Funding from EU Horizon 20/20 Program)	herantis.com/pipeline/cdnf-in-parkinsons-disease/
GDNF	Gene therapy	Phase 2 completed	GDNF in Idiopathic PD. (View results: CPT site, Brain, Journal of PD)	NCT03652363	North Bristol NHS Trust, Medgenesis, Parkinson's UK, CPT-LCT	completed	Oct-12	Apr-16	42 actual	scienceofparkinsons.com 2019/02/27 Bristol GDNF results	medgenesis.com - Feb. '18 press release; planning Phase 3
AAV-GAD	Gene therapy	Phase 2	Study of AAV-GAD Gene Transfer Into the Subthalamic Nucleus for Parkinson's Disease	NCT00643890	Neurologix (Oct. 2018: Meiragtx aquired Vector Neurosciences, which previously acquired Neurologix assets)	terminated due to financial reasons	Aug-08	Dec-10	44	parkinsonsnewstoday.com 2018/12/03 Phase 2 followup showed new brain circuits created (Feinstein Institute)	publ. of Phase 2 results in The Lancet, 3.17.11
AXO-Lenti-PD (OXB-102)	Gene therapy	Phase 1/2	Study of AXO-Lenti-PD (OXB-102) in Patients With Bilateral, Idiopathic Parkinson's Disease (SUNRISE-PD)	NCT03720418	Axovant Sciences, Oxford BioMedica	recruiting	Oct-18	Jun-22/Dec-31	30	Axovant Licenses AXO-Lenti-PD (OXB-102) & Prosavin from Oxford 6.6.18	
GM608	Neurotrophic factors	Phase 2B (or 3) planned	GM608 Phase 2A GAP-PD (NCT01850381) completed in Jul '14		Genervon	planned				Genervon.com - Pipeline	
Nilotinib* (Tasigna)	Leukemia drug (C-Abl Inhibitor)	Phase 2	Impact of Nilotinib on Safety, Tolerability, Pharmacokinetics and Biomarkers in PD (PD Nilotinib)	NCT02954978	Georgetown Univ.	active, not recruiting	Jan-17	Jul-20	75	Nilotinib Phase 1 completed (NCT02281474)	

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Nilotinib* (Tasigna)	Leukemia drug (C-Abl Inhibitor)	Phase 2	Nilotinib in Parkinson's Disease (NILO-PD) (patients involved in design)	NCT03205488	Northwestern Univ. Feinberg School of Medicine, Univ. of Rochester, Univ. of Iowa, MJFF, CPT-LCT inc VARI	active, not recruiting	Oct-17	Oct-20	75 (formerly 135)	MJFF, VARI and CPT collaborate to assess Nilotinib	MJFF Blog 3.15.17
K0706	Abl & Fin kinase inhibitor /potential alpha-syn affect, similar to Nilotinib	Phase 2	A Phase 2 Study of K0706 for Early Parkinson's Disease	NCT03655236	Sun Pharma (SPARC)	recruiting	Feb-19	Feb-21	504	Seekingalpha - SPARC slideshow Sept. 2018. ref. slides 19 - 22	
SCC-138	Abl & Fin kinase inhibitor /potential alpha-syn affect	Planned Phase 2	Sun Pharma (SPARC) planning Phase 2 of SCC-138 in Q3 2019 at multiple sites in N. America, Asia, Europe		Sun Pharma (SPARC)	planned				Seekingalpha - SPARC slideshow Sept. 2018. ref. slides 19 - 22	
Radotinib	similar to Nilotinib	planned			Ilyang Pharmaceutical					scienceofparkinsons.com/2018/06/17/radotinib/	currently in Phase 3 testing for leukemia
IkT-148009	similar to Nilotinib	planned			Inhibikase Therapeutic					www.inhibikase.com/pipeline	
1ST-102	similar to Nilotinib	planned			1ST Biotherapeutics					/www.1stbio.com/#research	
ISC-hpNSC	Stem cell therapy	Phase 1	A Study to Evaluate the Safety of Neural Stem Cells in Patients With Parkinson's Disease	NCT02452723	Cyto Therapeutics, a subsidiary of Int'l Stem Cell Corp.	recruiting	Mar-16	Dec-19	12	Int'l Stem Cell Corp. 6.11.18 press release re: ISC-hpNSC	scienceofparkinsons.com 2016/09/14 update on PD stem cell trial
NTCELL	Stem cell therapy	Phase 2b	Investigation of the Safety and Efficacy of NTCELL in Patients With Parkinson's Disease	NCT02683629	Living Cell Technologies,	active, not recruiting	Feb-16	Apr-19	18	lctglobal.com - development-to-date	Phase 1/2a (NCT01734733) completed June 2015. 4 patients
human stem cells (OK99)	Stem cell therapy	Phase 1	Human OK99 Allogeneic Stem Cell Transplantation for Patients With Severe Parkinson's Disease	NCT02780895	Celavie Biosciences	active, not recruiting (as of June '16)	May-14	Dec-18	8	www.celavie.com/celavie/product-development/	3 year Phase 1 taking place in Mexico
Neural Stem Cell-Derived Neurons	Stem cell therapy	Phase 1/2	Transplantation of Neural Stem Cell-Derived Neurons for Parkinson's Disease	NCT03309514	Neurogeneration	not yet recruiting	Jun-19 (was Feb-18)	Jun-21 (was Jun-19)	12	http://www.neurogeneration.com	
fetal stem cell transplant	Stem cell therapy	Phase 1	TRANSEURO Open Label Transplant Study in Parkinson's Disease (TRANSEURO)	NCT01898390	Univ. of Cambridge, TRANSEURO European Research Consortium CPT	active, not recruiting	May-12	Dec-19	40	http://www.transeuro.org.uk/index.html	
human neural stem cells (ANGE-S003)	Stem cell therapy	Phase 2/3	A Study To Evaluate the Safety and Efficacy of Human Neural Stem Cells for Parkinson's Disease Patient (hNSCPD)	NCT03128450	Second Affiliated Hosp. of Soochow University, Shanghai Angecon Biotechnology Cooperate	enrolling by invitation	Apr-17	Nov-18	12		
Dopamine Neuronal Precursor Cells	Stem cell therapy	Phase 1/2	Evaluation of Safety and Tolerability of Fetal Mesencephalic Dopamine Neuronal Precursor Cells for PD	NCT01860794	Bundang CHA Hospital	recruiting	May-13	Apr-22	15		
Neural Precursor Cells	Stem cell therapy	Phase 1/2	Safety and Efficacy Study of Human ESC-derived Neural Precursor Cells in the Treatment of PD	NCT03119636	Chinese Academy of Sciences, 1st Affiliated Hosp. of Zhengzhou Univ.	recruiting	May-17	Dec-20	50	scienceofparkinsons.com 2017/06/03 new PD stem cell trial proposed in china	
iPS cells	Stem cell therapy	Phase 1/2	Kyoto Trial to Evaluate the Safety and Efficacy of iPSC-derived dopaminergic progenitors in the treatment of Parkinson's Disease	not on CT.gov	Kyoto Univ., Prof. Jun Takahashi		Aug-18		7	Kyoto Univ press release 2018/7/30	scienceofparkinsons.com 2018/08/01 ips cell trial
Umbilical cord derived mesenchymal stem cells	Stem cell therapy	Phase 1/2	Use of Mesenchymal Stem Cells in Parkinson Disease (PD)	NCT03684122	Univ. of Jordan	recruiting	Jun-18	Apr-19	12	APDA: Understanding stem cell therapy in PD treatment	

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transplantation of dopamine neurons	Stem cell therapy	Planned Phase 1/2a early '19	STEM-PD		BlueRock Therapeutics (with Bayer & Versant Ventures funding)				10		
Cu(II)ATSM	Releases copper ("Cu") in cells with damaged mitochondrial electron transport chains.	Phase 1	Phase 1 Dose Escalation Study of Cu(II)ATSM in Parkinson's Disease	NCT03204929	Collaborative Medicinal Development Pty Limited,	recruiting	Jul-17	Mar-19	38	www.colmeddev.com/ procypra/	www.ncbi.nlm.nih.gov/ pmc/articles/PMC33283 61/
DA-9805	Botanical drug product composed of 3 main raw herbal materials	Phase 2	Safety and Efficacy of DA-9805 for Parkinson's Disease	NCT03189563	Dong-A ST Co., Ltd.	active, not recruiting	Feb-18	Mar-19	60	www.nature.com 2018/10/29 article on DA-9805	
Lingzhi (Ganoderma)	medicinal mushroom	Phase 3	Effects of Lingzhi on Disease Progression in Patients With Untreated Early PD	NCT03594656	Xuanwu Hospital, Beijing	not yet recruiting	Jul-18	Dec-20	288	Pharmacological effects of natural Ganoderma and its extracts on neurological diseases	www.ncbi.nlm.nih.gov/ pubmed/22593926
Nicoderm Patch	Transdermal nicotine	Phase 2 (results expected Q1 2018)	Disease-modifying Potential of Transdermal Nicotine in Early Parkinson's Disease (NIC-PD)	NCT01560754	James Boyd MD, Univ. of Vermont, MJFF, PSG, GPS, DPG, et al.	active, not recruiting (as of Sep. '15)	Oct-12	Dec-16	160	MJFF NIC-PD Grant Information	
Blood Plasma	Blood plasma infusion	Phase 1	The Stanford Parkinson's Disease Plasma (SPDP) Study	NCT02968433	Stanford Univ.	active, not recruiting	Nov-16	Dec-18	15 (actual)	www.bioportfolio.com: The-Stanford- Parkinsons-Disease- Plasma-Study	June 2015 TED Talk: "How Young Blood Might Reverse Aging"
GRF6021	Blood plasma infusion	Phase 2	A Study to Assess the Safety of GRF6021 Infusions in Subjects With Parkinson's Disease and Cognitive Impairment	NCT03713957	Alkahest, MJFF	recruiting	Nov-18	Nov-20	90	MJFF news 2018/12/7: Alkahest-begins-phase- ii-trial-of-plasma-based- therapy	scienceofparkinsons.co m/2018/12/26/alkahest /
ITI-214	Phosphodiesterase 1 (PDE 1) inhibitor	Phase 1/2	Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of ITI-214 in Parkinson's Disease	NCT03257046	Intra-Cellular Therapies, Inc.	completed	Sep-17	Sep-18	40 (actual)	globeNewswire.com 2018.10.23 ITI-214 Phase-1-2 Clinical Trial Results	scienceofparkinsons.co m/2018/10/23/pde1/ (ITI-214)
KM-819	FAF-q inhibitor	Phase 1	KM-819 for Patients With Parkinson's Disease	NCT03022799	Kainos Medicine	completed	Oct-16	Oct-17	88	2019/01/07 Kainos, Phase 1 shows safety and tolerability	www.kainosmedicine.c om pipeline
IRX4204	RXR agonist (nuclear retinoid receptors)	Phase 1 completed	Study of IRX4204 for Treatment of Early Parkinson's Disease	NCT02438215	IO Therapeutics	completed	Aug-14	May-15	15	io- therapeutics.com/progr ams/4204-2/	NCT0243821 = Phase 1 for PD, completed, publication not found.
Nicotinamide riboside	dietary supplement; form of vitamin B3	N/A	A Randomized Controlled Trial of Nicotinamide Supplementation in Early PD: the NOPARK Study	NCT03568968	Haukeland University Hospital	not yet recruiting	Sep-19	Oct-21	200	scienceofparkinsons.co m 2018/06/11 NAD, vitamin B3	
4 repurposed drugs	multi-arm trial of 4 repurposed drugs	Planned for mid-2019	Australian Parkinson's Mission: Planned five-year research program evaluating four repurposed drugs		Garvan Institute, Shake It Up Australia Fndn, Parkinson's Australia, CPT, MJFF		mid-2019		300	Garvan press release 2019/01/30	scienceofparkinsons.co m 2019/01/30 APM