Parkinson's Research

Parkinson's disease results from the decline of dopamine-generating cells in the substantia nigra. Anticholinergics and sirtuin inhibition have been explored as well. Cayman offers a collection of compounds related to these various therapeutic strategies.

Antibodies

Item No.	Product Name	Summary
10009370	Dopamine β-hydroxylase (C-Term; human) Polyclonal Antibody	**Antigen:** peptide from the C-terminal region of human dopamine β-hydroxylase (DBH) • **Host:** sheep • **Species Reactivity:** (+) human, mouse, and non-human primate DBH • **Application:** WB
10009371	Dopamine β-hydroxylase (N-Term; human) Polyclonal Antibody	**Antigen:** peptide from the N-terminal region of human dopamine β-hydroxylase (DBH) • **Host:** sheep • **Species Reactivity:** (+) human, mouse, and non-human primate DBH • **Application:** WB
10009372	Dopamine Transporter (C-Term) Polyclonal Antibody	**Antigen:** peptide from the C-terminal region of human DAT • **Host:** rabbit • **Species Reactivity:** human, mouse striatal, and Macaque monkey brain DAT • **Application(s):** IHC and WB
10009373	Dopamine Transporter (Extracellular Loop 2) Polyclonal Antibody	**Antigen:** peptide from the extracellular loop 2 (EL2) region of human DAT • **Host:** rabbit • **Species Reactivity:** (+) human striatal as well as human and monkey brain • **Application(s):** WB
10009414	Tyrosine Hydroxylase (Phospho-Ser^{40}) Polyclonal Antibody	**Antigen:** phosphopeptide corresponding to amino acid residues surrounding phospho-Ser^{40} of rat TH • **Host:** rabbit • **Species reactivity:** (+) mammalian and non-mammalian TH • **Applications:** IF (frozen sections), IHC (frozen sections), and WB

Dopamine Receptor Agonists and Dopamine-Sparing Compounds

Item No.	Product Name	Summary
16094	(-)-Apomorphine (hydrochloride)	Non-selective dopamine receptor agonist (pK_is = 6.43, 7.08, 7.59, 8.36, and 7.83 for human recombinant D_1, $D2_L$, D_3, D_4, and D_5 receptors, respectively); produces biphasic effects on locomotor activity and displays anti-Parkinsonian and neuroprotective actions
16214	Benztropine (mesylate)	A centrally acting M_1 mAChR antagonist (K_i = 0.59 nM in rat) that also inhibits dopamine uptake through the dopamine transporter (K_i = 160 nM)
14598	Bromocriptine (mesylate)	A potent dopamine D_2 receptor agonist (K_i = 2.5 nM); avidly binds the serotonin receptors 5-HT_{1A} and 5-HT_{1D} (K_is = 12.9 and 10.7 nM, respectively), as well as α and β adrenoreceptors
15618	CAY10680	Inhibits both MAO-B activity (IC_{50} = 34.9 nM in human) and adenosine A_{2A} receptors (K_i = 39.5 nM in human); designed as a potential dopamine-sparing therapeutic
13248	L-DOPA	A metabolic precursor of dopamine that crosses the blood-brain barrier *Also available:* L-DOPA methyl ester (hydrochloride) (16149)
14153	Entacapone	A peripherally acting, selective and reversible COMT inhibitor (K_i = 145 nM); decreases 3-OMD levels in the rat brain by 16-52% and prolongs the bioavailability of L-DOPA
11981	Pramipexole (hydrochloride)	A dopamine receptor agonist (K_is = 3.9, 2.2, 0.5, and 5.1 nM for D_{2S}, D_{2L}, D_3, and D_4, respectively)
14917	Rasagiline	A selective, irreversible inhibitor of MAO-B (IC_{50}s = 4.43 and 412 nM for MAO-B and MAO-A, respectively) that has been used to increase the availability of dopamine at striatal receptors
10032	N-(α-Linolenoyl) Tyrosine	Used for enhancing CNS dopamine content by facilitated transport of the tyrosine precursor across the blood-brain barrier

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Additional Therapeutic Compounds

Item No.	Product Name	Summary
13145	AGK2	A cell-permeable, selective inhibitor of SIRT2 (IC_{50} = 3.5 µM) that minimally affects either SIRT1 or SIRT3; rescues dopamine neurons from α-synuclein toxicity
14004	AK-7	A cell- and brain-permeable inhibitor of SIRT2 (IC_{50} = 15.5 µM)
15046	R-(-)-Deprenyl (hydrochloride)	A selective, reversible inhibitor of MAO-B (K_i = 0.091 µM) over MAO-A (K_i = 9.06 µM)
13852	DL-AP3	A competitive mGluR1 antagonist (K_i = 298 µM; IC_{50} = 1 mM for rat mGluR1α when challenged with glutamate)
11640	Lazabemide	A selective and reversible inhibitor of MAO-B (IC_{50}s = 0.48 and 1.5 µM measured in platelets of human subjects ages 19-36 and 60-78, respectively)
14044	Pinostilbene	A stable, monomethoxylated resveratrol derivative that at 0.1-10 µM reduces neurotoxicity in SH-SY5Y cells induced by the parkinsonian mimetic 6-OHDA
14270	Rivastigmine (tartrate)	An irreversible inhibitor of AChE (IC_{50} = 4.15 µM) and BuChE (IC_{50} = 37 nM); used in modifying the course of neurodegenerative diseases

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