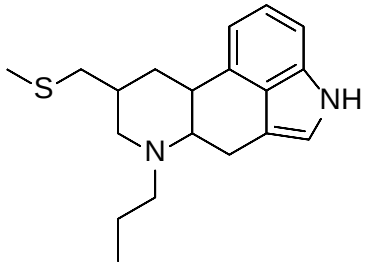
Product data sheet

MedKoo Cat#: 315247 Name: Pergolide CAS: 66104-22-1 Chemical Formula: $C_{19}H_{26}N_2S$ Exact Mass: 314.1817 Molecular Weight: 314.491	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Pergolide (Permax, Pergotoliderived) is an ergoline-based dopamine receptor agonist used in some countries for the treatment of Parkinson's disease. Parkinson's disease is associated with low levels of the neurotransmitter dopamine in the brain. Pergolide has some of the same effects as dopamine in the body. In 2007, pergolide was withdrawn from the U.S. market after several published studies revealed a link between the drug and increased rates of valvular dysfunction. (Source: http://en.wikipedia.org/wiki/Pergolide)

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.18 mL	15.90 mL	31.80 mL
5 mM	0.64 mL	3.18 mL	6.36 mL
10 mM	0.32 mL	1.59 mL	3.18 mL
50 mM	0.06 mL	0.32 mL	0.64 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Zhang X, Muddana S, Kumar SR, Burton JN, Labroo P, Shea J, Stocking P, Siegl C, Archer B, Agarwal J, Ambati BK. Topical Pergolide Enhance Corneal Nerve Regrowth Following Induced Corneal Abrasion. Invest Ophthalmol Vis Sci. 2020 Jan 23;61(1):4. doi: 10.1167/iovs.61.1.4. PMID: 31999819; PMCID: PMC7205105.
2. Jeong I, Choi BH, Hahn SJ. Pergolide block of the cloned Kv1.5 potassium channels. Naunyn Schmiedebergs Arch Pharmacol. 2013 Feb;386(2):125-33. doi: 10.1007/s00210-012-0776-5. Epub 2012 Jul 5. PMID: 22763615.

In vivo study

1. Ciobica A, Olteanu Z, Padurariu M, Hritcu L. The effects of pergolide on memory and oxidative stress in a rat model of Parkinson's disease. J Physiol Biochem. 2012 Mar;68(1):59-69. doi: 10.1007/s13105-011-0119-x. Epub 2011 Oct 18. PMID: 22006204.
2. Ono S, Hirai K, Tokuda E. Effects of pergolide mesilate on metallothionein mRNAs expression in a mouse model for Parkinson disease. Biol Pharm Bull. 2009 Oct;32(10):1813-7. doi: 10.1248/bpb.32.1813. PMID: 19801850.

7. Bioactivity
Biological target:
Pergolide (LY127809 (free base)) is an ergot-derived orally active dopamine receptor agonist.

Product data sheet

In vitro activity

This study examined levels of several neurotrophic factors associated with cornea nerve regeneration, including NGF, glial cell-derived neurotrophic factor, brain-derived neurotrophic factor, and vascular endothelial growth factor. RT-PCR demonstrated that only NGF was upregulated after the cornea was wounded. Further, upon treatment with liposomes loaded with pergolide, gene expression of NGF was significantly higher than in the vehicle control group (Fig. 2A). This was further confirmed by protein expression of NGF after treatment with different concentrations of pergolide as a clear aqueous solution with the Marinosolv formulation (10, 50, and 300 µg/ml) (Fig. 2B). Protein expression of NGF increased with pergolide treatment in a dose-dependent manner. Both liposomes and Marinosolv were effective as a vehicle for pergolide.

Reference: Invest Ophthalmol Vis Sci. 2020 Jan 23;61(1):4. https://pubmed.ncbi.nlm.nih.gov/31999819/

In vivo activity

In this way, the aim of the present study was to examine the effects of low-dose pergolide on memory deficits and brain oxidative stress in a 6-OHDA (6-hydroxydopamine)-induced rat model of PD (Parkinson's disease). A reduced number of working/reference memory errors was observed in 6-OHDA + pergolide group, compared to sham-operated rats. Additionally, post hoc analysis showed significant differences between 6-OHDA and 6-OHDA + pergolide groups in both Y-maze and radial-arm-maze tasks. This study also noted a significant decrease of MDA level in the 6-OHDA + pergolide group, compared to sham-operated rats. Significant correlations were also found between behavioral parameters and MDA levels. These data suggest that pergolide facilitates spatial memory and improves brain oxidative balance, after a 6-OHDA-induced model of PD.

Reference: J Physiol Biochem. 2012 Mar;68(1):59-69. https://pubmed.ncbi.nlm.nih.gov/22006204/