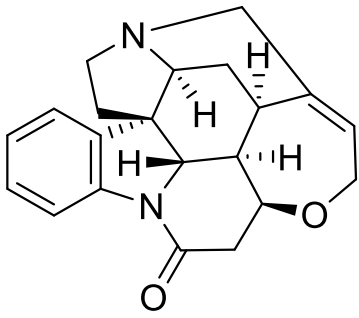


Product data sheet



MedKoo Cat#: 412587 Name: Strychnine (free base) CAS#: 57-24-9 Chemical Formula: C ₂₁ H ₂₂ N ₂ O ₂ Exact Mass: 334.1681 Molecular Weight: 334.42	
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:

Strychnine (free base) is an alkaloid found in the seeds of *STRYCHNOS NUX-VOMICA*. Strychnine is used as a rodenticide and a glycine receptor antagonist, which inhibits Renshaw cell-motor neuron synapse. It binds to the α subunit N-terminal region of the glycine receptor. The effect of strychnine is neutralized in the presence of glycine receptor agonist ivermectin. Strychnine also inhibits leukocyte motility.

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
To be determined	To be determined	To be determined

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.99 mL	14.95 mL	29.90 mL
5 mM	0.60 mL	2.99 mL	5.98 mL
10 mM	0.30 mL	1.50 mL	2.99 mL
50 mM	0.06 mL	0.30 mL	0.60 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

- Dudeck O, Lübben S, Eipper S, Knörle R, Kirsch M, Honegger J, Zentner J, Feuerstein TJ. Evidence for strychnine-sensitive glycine receptors in human amygdala. *Naunyn Schmiedebergs Arch Pharmacol*. 2003 Sep;368(3):181-7. doi: 10.1007/s00210-003-0786-4. Epub 2003 Aug 16. PMID: 12923611.
- García-Colunga J, Miledi R. Modulation of nicotinic acetylcholine receptors by strychnine. *Proc Natl Acad Sci U S A*. 1999 Mar 30;96(7):4113-8. doi: 10.1073/pnas.96.7.4113. PMID: 10097172; PMCID: PMC22429.

In vivo study

- McCool BA, Chappell A. Strychnine and taurine modulation of amygdala-associated anxiety-like behavior is 'state' dependent. *Behav Brain Res*. 2007 Mar 12;178(1):70-81. doi: 10.1016/j.bbr.2006.12.002. Epub 2007 Jan 17. PMID: 17207866; PMCID: PMC1839829.
- Roy NM, Arpie B, Lugo J, Linney E, Levin ED, Cerutti D. Brief embryonic strychnine exposure in zebrafish causes long-term adult behavioral impairment with indications of embryonic synaptic changes. *Neurotoxicol Teratol*. 2012 Nov-Dec;34(6):587-91. doi: 10.1016/j.ntt.2012.08.001. Epub 2012 Aug 7. PMID: 23022260; PMCID: PMC4338986.

Product data sheet



7. Bioactivity

Biological target:

Strychnine is a glycine receptor antagonist not associated with the N-methyl-D-aspartate (NMDA) receptor.

In vitro activity

The results presented here show that the convulsive alkaloid strychnine reversibly inhibits different subtypes of muscle and neuronal AcChoRs in a noncompetitive manner and with different strengths. In conclusion, our results suggest that strychnine inhibits noncompetitively the function of AcChoRs by interacting at an external site of muscle AcChoRs and by blocking the ion channel in neuronal AcChoRs.

Reference: Proc Natl Acad Sci U S A. 1999 Mar 30;96(7):4113-8. <https://pubmed.ncbi.nlm.nih.gov/10097172/>

In vivo activity

Consistent with previous results demonstrating that lateral/basolateral amygdala neurons express functional strychnine-sensitive glycine receptors, microinjection of strychnine (0.5pmol or 167pg) directly into this brain region reduced 'anxiety-like' behaviors in two separate assays.

Reference: Behav Brain Res. 2007 Mar 12;178(1):70-81. <https://pubmed.ncbi.nlm.nih.gov/17207866/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.