

Product data sheet



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|--|---|
| MedKoo Cat#: 562490 Name: Quinpirole dihydrochloride CAS: 73625-62-4 Chemical Formula: C ₁₃ H ₂₃ Cl ₂ N ₃ Molecular Weight: 292.24 | H-Cl H-Cl |
| 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:

Quinpirole dihydrochloride is a D2-like dopamine receptor agonist.

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 | 3.42 mL | 1.71 mL | 34.22 mL |
| 5 mM | 0.68 mL | 3.42 mL | 6.84 mL |
| 10 mM | 0.34 mL | 0.17 mL | 3.42 mL |
| 50 mM | 0.07 mL | 0.34 mL | 0.68 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

- Liu P, Qin D, Lv H, Fan W, Tao Z, Xu Y. Neuroprotective effects of dopamine D2 receptor agonist on neuroinflammatory injury in olfactory bulb neurons in vitro and in vivo in a mouse model of allergic rhinitis. *Neurotoxicology*. 2021 Dec;87:174-181. doi: 10.1016/j.neuro.2021.10.001. Epub 2021 Oct 5. PMID: 34624383.
- Levant B, Bancroft GN. Inhibition of [3H]quinpirole binding by a monoamine oxidase inhibitor in subcellular fractions of rat striatum. *Life Sci*. 1998;63(18):1643-51. doi: 10.1016/s0024-3205(98)00433-0. PMID: 9806217.

In vivo study

- Wengrovitz A, Ivantsova E, Crespo N, Patel M, Souders CL 2nd, Martyniuk CJ. Differential effects of dopamine receptor agonists ropinirole and quinpirole on locomotor and anxiolytic behaviors in larval zebrafish (*Danio rerio*): A role for the GABAergic and glutamate system? *Neurotoxicol Teratol*. 2023 May 19;98:107183. doi: 10.1016/j.ntt.2023.107183. Epub ahead of print. PMID: 37211288.
- Alam SI, Jo MG, Park TJ, Ullah R, Ahmad S, Rehman SU, Kim MO. Quinpirole-Mediated Regulation of Dopamine D2 Receptors Inhibits Glial Cell-Induced Neuroinflammation in Cortex and Striatum after Brain Injury. *Biomedicines*. 2021 Jan 7;9(1):47. doi: 10.3390/biomedicines9010047. PMID: 33430188; PMCID: PMC7825629.

7. Bioactivity

Biological target:

Quinpirole dihydrochloride is a salt.

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In vitro activity

Available evidence indicates that dopamine D2 receptor modulates the neurotoxic effects induced by glutamate. However, neurotoxicity mediated by AMPA-subtype glutamate receptor has rarely been studied in the olfactory bulb. This study showed that quinpirole reduced the phosphorylation of GluR1 S845 and GluR2 S880 in olfactory bulb neurons in vitro, but it had no obvious effect on GluR1 S831.

Reference: Neurotoxicology. 2021 Dec;87:174-181. <https://pubmed.ncbi.nlm.nih.gov/34624383/>

In vivo activity

Pharmacological studies demonstrate that dopamine regulates zebrafish larval behavior. Quinpirole is a selective dopamine receptor agonist for D2 and D3 subtypes. This study found that quinpirole did not alter the abundance of any transcript measured, suggesting that dopamine-GABA interaction may involve D4-receptors. This study helps characterize toxicants acting via dopamine receptors and elucidate mechanisms of neurological disorders that involve motor circuits and multiple neurotransmitter systems.

Reference: Neurotoxicol Teratol. 2023 May 19;98:107183. <https://pubmed.ncbi.nlm.nih.gov/37211288/>

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.