

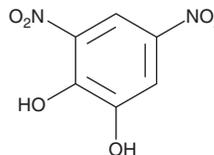
# PRODUCT INFORMATION



## 3,5-Dinitrocatechol

Item No. 29180

**CAS Registry No.:** 7659-29-2  
**Formal Name:** 3,5-dinitro-1,2-benzenediol  
**Synonym:** OR-486  
**MF:** C<sub>6</sub>H<sub>4</sub>N<sub>2</sub>O<sub>6</sub>  
**FW:** 200.1  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 214, 272, 339 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

3,5-Dinitrocatechol is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,5-dinitrocatechol in water. The solubility of 3,5-dinitrocatechol in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

3,5-Dinitrocatechol is a potent catechol O-methyltransferase (COMT) inhibitor (IC<sub>50</sub> = 12 nM).<sup>1</sup> It is selective for COMT over tyrosine hydroxylase, dopamine β-hydroxylase, dopamine decarboxylase, monoamine oxidase A (MAO-A), and MAO-B (IC<sub>50</sub>s = >14 μM for all). 3,5-Dinitrocatechol (30 mg/kg), in combination with L-DOPA (Item No. 13248) and carbidopa (Item No. 23783), reduces 3-O-methyldopa (3-OMD) levels in rat serum, compared with control animals receiving only L-DOPA and carbidopa. Chronic administration of 3,5-dinitrocatechol (15 mg/kg per day for seven days) induces COMT-dependent thermal hyperalgesia and increases preference for dark in a light/dark preference test, indicating anxiety-like behavior, in rats, effects that can be prevented by the β-adrenergic receptor antagonist propranolol (Item No. 23349).<sup>2</sup>

### References

1. Nissinen, E., Lindén, I.-B., Schultz, E., *et al.* Inhibition of catechol-O-methyltransferase activity by two novel disubstituted catechols in the rat. *Eur. J. Pharmacol.* **153(2-3)**, 263-269 (1988).
2. Kline, R.H., IV, Exposto, F.G., O'Buckley, S.C., *et al.* Catechol-O-methyltransferase inhibition alters pain and anxiety-related volitional behaviors through activation of β-adrenergic receptors in the rat. *Neuroscience* **290**, 561-569 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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