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## Product Information

### DL-Isoproterenol hydrochloride

Product Number **I5627**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $C_{11}H_{17}NO_3 \cdot HCl$   
Molecular Weight: 247.7  
CAS Number: 51-30-9  
Melting Point: 170-171 °C<sup>1</sup>  
Synonyms: isoprenaline hydrochloride; 4-[1-hydroxy-2-(1-methylethyl)-amini]ethyl]-1,2-benzenediol hydrochloride; 3,4-dihydroxy- $\alpha$ -[(isopropylamino)methyl]benzyl alcohol hydrochloride;  $\alpha$ -isopropylaminomethyl)protocatechuy alcohol hydrochloride

Isoproterenol is a catecholamine compound and  $\beta$ -adrenergic agonist that is used in cardiovascular research.<sup>1,3-5</sup> Isoproterenol can be used to probe the role of  $\beta$ -adrenergic receptors in such processes as N-acetyltransferase activity and the production of melatonin.<sup>6</sup> The effects of isoproterenol and other catecholamines on angiotensinogen gene expression in opossum kidney proximal tubular cells have been studied.<sup>7</sup>

Isoproterenol also causes increases in cytosolic cAMP levels. Isoproterenol (100  $\mu$ M) has been used to study the role of the anti-apoptotic protein Bcl-2 on the growth and death of cultured murine S49 cells.<sup>8</sup> A study of cultured human fetal lung fibroblasts has shown that isoproterenol (10  $\mu$ M) can inhibit fibroblast chemotaxis.<sup>9</sup> The ability of isoproterenol (10  $\mu$ M) to modulate binding of the protein PSD-95 to the  $\mu_1$ -adrenergic receptor in COS-7 cells has been investigated.<sup>10</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water at (50 mg/ml), yielding a clear to slightly hazy, colorless to yellow or faint pink solution. The solubility in water has also been reported at 333 mg/ml. It is soluble in ethanol at 20 mg/ml.<sup>1</sup>

#### Storage/Stability

Solutions of this product become pink to brownish-pink upon exposure to air. Solutions will almost immediately discolor colors when made alkaline. Stock solutions should be protected from light.

#### References

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7. Chan, J. S., et al., Catecholamines and angiotensinogen gene expression in kidney proximal tubular cells. *Mol. Cell. Biochem.*, **212(1-2)**, 73-79 (2000).
8. Zhang, L., and Insel, P. A., Bcl-2 protects lymphoma cells from apoptosis but not growth arrest promoted by cAMP and dexamethasone. *Am. J. Physiol. Cell. Physiol.*, **281(5)**, C1642-1647 (2001).
9. Kohyama, T., et al., Prostaglandin E<sub>2</sub> inhibits fibroblast chemotaxis. *Am. J. Physiol. Lung Cell Mol. Physiol.*, **281(5)**, L1257-1263 (2001).
10. Hu, L. A., et al., G protein-coupled receptor kinase 5 regulates beta 1-adrenergic receptor association with PSD-95. *J. Biol. Chem.*, **277(2)**, 1607-1613 (2002).

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