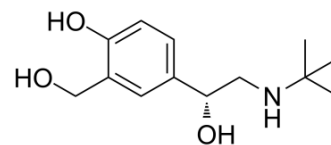


Levalbuterol

Cat. No.:	HY-B1675
CAS No.:	34391-04-3
Molecular Formula:	C ₁₃ H ₂₁ NO ₃
Molecular Weight:	239.31
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Levalbuterol ((R)-Albuterol; (R)-Salbutamol) is a short-acting β ₂ -adrenergic receptor agonist and the active (R)-enantiomer of Salbutamol. Levalbuterol is a more potent bronchodilator than Salbutamol and has the potential for the treatment of COPD ^[1] .								
In Vitro	<p>Levalbuterol (10 μM; 24 hours) induces 11β-HSD1 mRNA expression, however, it does not influence 11β-HSD2 expression in airway epithelial cells^[1].</p> <p>Levalbuterol (10 μM; 24 hours) significantly reduces both LPS- and TNF-α-induced NF-κB activity while increasing GRE activation in an 11β-HSD1 dependent manner in a transformed mouse airway epithelial cell line^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>RT-PCR^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Murine Club (MTCC) cells</td> </tr> <tr> <td>Concentration:</td> <td>10 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Increased 11β-HSD1 mRNA expression selectively.</td> </tr> </table>	Cell Line:	Murine Club (MTCC) cells	Concentration:	10 μM	Incubation Time:	24 hours	Result:	Increased 11β-HSD1 mRNA expression selectively.
Cell Line:	Murine Club (MTCC) cells								
Concentration:	10 μM								
Incubation Time:	24 hours								
Result:	Increased 11β-HSD1 mRNA expression selectively.								
In Vivo	<p>Levalbuterol (subcutaneous injection; 1 mg/kg; 14 days) significantly decreases pulmonary inflammation in OVA mice, demonstrated a decrease in eosinophilia and IgE^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>C57BL/6 female mice with a pulmonary allergic model^[3]</td> </tr> <tr> <td>Dosage:</td> <td>1 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Subcutaneous injection; 1 mg/kg; 14 days</td> </tr> <tr> <td>Result:</td> <td>Decreased pulmonary inflammation after OVA sensitization.</td> </tr> </table>	Animal Model:	C57BL/6 female mice with a pulmonary allergic model ^[3]	Dosage:	1 mg/kg	Administration:	Subcutaneous injection; 1 mg/kg; 14 days	Result:	Decreased pulmonary inflammation after OVA sensitization.
Animal Model:	C57BL/6 female mice with a pulmonary allergic model ^[3]								
Dosage:	1 mg/kg								
Administration:	Subcutaneous injection; 1 mg/kg; 14 days								
Result:	Decreased pulmonary inflammation after OVA sensitization.								

REFERENCES

[1]. Randall MJ, et al. Anti-inflammatory effects of levalbuterol-induced 11β -hydroxysteroid dehydrogenase type 1 activity in airway epithelial cells. *Front Endocrinol (Lausanne)*. 2015 Jan 12;5:236.

[2]. Ferrada MA, et al. (R)-albuterol decreases immune responses: role of activated T cells. *Respir Res*. 2008 Jan 14;9:3.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA