Fenoterol

Cat. No.: HY-B0976

CAS No.: 13392-18-2

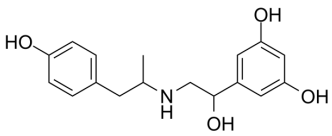
Molecular Formula: $C_{17}H_{21}NO_4$

Molecular Weight: 303.35

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

Fenoterol (Th-1165), a sympathomimetic agent, is a selective and orally active β2-adrenoceptor agonist. Fenoterol is an effective bronchodilator and can be used for bronchospasm associated with asthma, bronchitis and other obstructive airway diseases research[1][2].

In Vitro

Fenoterol (1 μM; pre-incubated 30 minutes) treatment reduces AICAR-induced AMPK activation, NF-κB activation and TNF-α release, and also significantly downregulates the elevated phosphorylation levels of AMPK[2].

Fenoterol inhibits lipopolysaccharide (LPS)-induced AMPK activation and inflammatory cytokine production in THP-1 cells[2].

Fenoterol is also a potent exosome biogenesis and/or secretion activator in PC cells[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	THP-1 cells stimulated with AICAR
Concentration:	1 μM
Incubation Time:	Pre-incubated 30 minutes
Result:	Significantly downregulated the elevated phosphorylation levels of AMPK.

In Vivo

Fenoterol (0.7 mg/kg; intraperitoneal injection; twice a day; for 3 weeks) treatment suppresses mechanical allodynia during chronic treatment[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57BL/6J mice (6 weeks old) with neuropathy[3]
Dosage:	0.7 mg/kg
Administration:	Intraperitoneal injection; twice a day; for 3 weeks
Result:	Alleviated neuropathic allodynia during chronic treatment.

REFERENCES

[1]. Amrita Datta, et al. High-throughput screening identified selective inhibitors of exosome biogenesis and secretion: A drug repurposing strategy for advanced cancer. Sci Rep. 2018 May 25;8(1):8161.

[2]. R C Heel, et al. Fenoterol: a review of its pharmacological properties and therapeutic efficacy in asthma. Drugs. 1978 Jan;15(1):3-32.

[3]. Wei Wang, et al. Anti-inflammatory activities of fenoterol through β-arrestin-2 and inhibition of AMPK and NF-κB activation in AICAR-induced THP-1 cells. Biomed Pharmacother. 2016 Dec;84:185-190.

[4]. Nada Choucair-Jaafar, et al. Beta2-adrenoceptor agonists alleviate neuropathic allodynia in mice after chronic treatment. Br J Pharmacol. 2009 Dec;158(7):1683-94.

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

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