



## Product Information

Product ID A6922

CAS No. 200815-49-2

Chemical Name

Synonym

Formula  $C_{19}H_{24}N_2O_4 \cdot C_4H_6O_6$

Formula Wt. 494.19

Melting Point

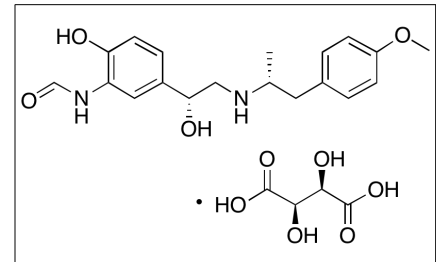
Purity  $\geq 98\%$

Solubility

Store Temp Ambient

Ship Temp Ambient

**Description** Arformoterol is the R,R enantiomer of formoterol. Arformoterol exhibits anti-inflammatory and anti-asthma activities, potentiating the effects of co-administered glucocorticoids in the treatment of asthma and chronic obstructive pulmonary disorder (COPD). Arformoterol activates  $\beta_2$ -adrenergic receptors and bitter taste receptors (TAS2Rs) in bronchi, inducing airway relaxation through  $\beta_2$  adrenergic receptor downstream signaling effects on intracellular cAMP and  $Ca^{2+}$  levels. Additionally, arformoterol's activation of TAS2Rs is thought to involve inhibition of PI3K signaling. Arformoterol inhibits migration of human airway smooth muscle cells through other  $\beta_2$  adrenergic receptor downstream signaling effects on PKA and vasodilator-stimulated phosphoprotein (VASP). In vitro, arformoterol inhibits phosphorylation of JNK, p38 MAPK, and the glucocorticoid receptor.



**Bulk quantities available upon request**

Product ID	Size
A6922	5 mg
A6922	10 mg
A6922	25 mg

**References** Grassin-Delyle S, Abrial C, Fayad-Kobeissi S, et al. The expression and relaxant effect of bitter taste receptors in human bronchi. *Respir Res.* 2013 Nov 22;14:134. PMID: 24266887.

Goncharova EA, Goncharov DA, Zhao H, et al.  $\beta_2$ -adrenergic receptor agonists modulate human airway smooth muscle cell migration via vasodilator-stimulated phosphoprotein. *Am J Respir Cell Mol Biol.* 2012 Jan;46(1):48-54. PMID: 22210825.

Mercado N, To Y, Kobayashi Y, et al. p38 mitogen-activated protein kinase- $\gamma$  inhibition by long-acting  $\beta_2$  adrenergic agonists reversed steroid insensitivity in severe asthma. *Mol Pharmacol.* 2011 Dec;80(6):1128-35. PMID: 21917909.

Johnson M. Beta2-adrenoceptors: mechanisms of action of beta2-agonists. *Paediatr Respir Rev.* 2001 Mar;2(1):57-62. PMID: 16263481.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.