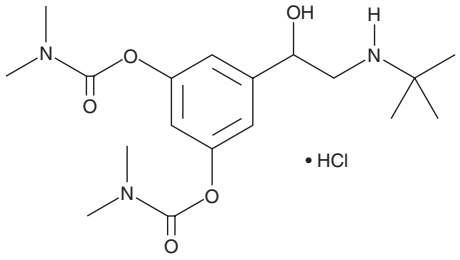
PRODUCT INFORMATION

Bambuterol (hydrochloride)

Item No. 17887

CAS Registry No.: 81732-46-9
Formal Name: N,N-dimethyl-carbamic acid-3-[[(dimethylamino)carbonyl]oxy]-5-[2-[(1,1-dimethylethyl)amino]-1-hydroxyethyl]phenyl ester, monohydrochloride
Synonym: KWD 2183
MF: $C_{18}H_{29}N_3O_5$ • HCl
FW: 403.9
Purity: ≥95%
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

Bambuterol (hydrochloride) is supplied as a crystalline solid. Aqueous solutions of bambuterol (hydrochloride) can be prepared by directly dissolving the bambuterol (hydrochloride) in aqueous buffers. The solubility of bambuterol (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Bambuterol is a prodrug form of the β-adrenergic receptor (β-AR) agonist terbutaline (Item No. 29337).[1,2] It is also an inhibitor of butyrylcholinesterase (BChE; IC_{50} = 3.9 nM for the human enzyme), the enzyme that metabolizes bambuterol into terbutaline, and this inhibition increases the duration of action of terbutaline.[1,3] Bambuterol (1 and 2 mg/kg) increases the latency to histamine-induced collapse in guinea pigs.[4] It completely inhibits ovalbumin-induced decreases in dynamic compliance and increases in pulmonary resistance in ovalbumin-sensitized guinea pigs when administered at a dose of 10 mg/kg. Formulations containing bambuterol have been used in the treatment of asthma.

References

1. Fukami, T. and Yokoi, T. The emerging role of human esterases. *Drug Metab.Pharmacokinet.* **27(5)**, 466-477 (2012).
2. Hoffmann, C., Leitz, M.R., Oberdorf-Maass, S., *et al.* Comparative pharmacology of human β-adrenergic receptor subtypes - characterization of stably transfected receptors in CHO cells. *Naunyn Schmiedebergs Arch. Pharmacol.* **369(2)**, 151-159 (2004).
3. Pistolozzi, M., Du, H., Wei, H., *et al.* Stereoselective inhibition of human butyrylcholinesterase by the enantiomers of bambuterol and their intermediates. *Drug Metab. Dispos.* **43(3)**, 344-352 (2015).
4. Xie, Q.-M., Zeng, L.-H., Zheng, Y.-X., *et al.* Bronchodilating effects of bambuterol on bronchoconstriction in guinea pigs. *Zhongguo Yao Li Xue Bao* **20(7)**, 651-654 (1999).

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