

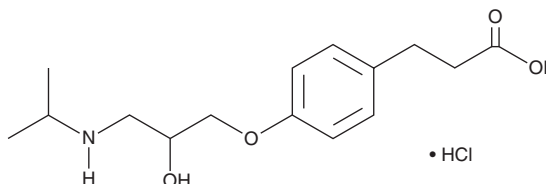
# PRODUCT INFORMATION



## Esmolol Acid (hydrochloride)

Item No. 35295

**CAS Registry No.:** 83356-60-9  
**Formal Name:** 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-benzenepropanoic acid, monohydrochloride  
**Synonym:** ASL 8123  
**MF:** C<sub>15</sub>H<sub>23</sub>NO<sub>4</sub> • HCl  
**FW:** 317.8  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 222 nm  
**Supplied as:** A 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

Esmolol acid (hydrochloride) is supplied as a solid. Aqueous solutions of esmolol acid (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of esmolol acid (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Esmolol acid is an active metabolite of the β<sub>1</sub>-adrenergic receptor (β<sub>1</sub>-AR) antagonist esmolol (Item No. 22581).<sup>1</sup> It is formed from esmolol via hydrolysis by a red blood cell esterase. Esmolol acid inhibits isoproterenol-induced increases in the beating rate of isolated guinea pig right atria (pA<sub>2</sub> = 3.73) and prevents tachycardia and hypotension induced by isoproterenol (Item No. 15592) in anesthetized dogs in a dose-dependent manner.<sup>2</sup> It is also a potential impurity in commercial preparations of esmolol.<sup>3</sup>

### References

1. Jahn, P., Eckrich, B., Schneidrowski, B., et al. β<sub>1</sub>-adrenoceptor subtype selective antagonism of esmolol and its major metabolite in vitro and in man. Investigations using tricresylphosphate as red blood cell carboxylesterase inhibitor. *Arzneimittelforschung* **45(5)**, 536-541 (1995).
2. Shaffer, J.E., Quon, C.Y., and Gorczynski, R.J. β-adrenoreceptor antagonist potency and pharmacodynamics of ASL-8123, the primary acid metabolite of esmolol. *J. Cardiovasc. Pharmacol.* **11(2)**, 187-192 (1988).
3. Sahadev Reddy, M., Reddy, M.S.N., Rajan, S.T., et al. Structural identification and characterization of impurities in esmolol hydrochloride. *Der Pharma Chem.* **8(4)**, 296-300 (2016).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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