

# Produktinformation



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#### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic in



# Product Information

#### Clopidogrel Carboxylic Acid (hydrochloride)

Item No. 17871

CAS Registry No.: 144750-42-5

Formal Name: αS-(2-chlorophenyl)-6,7-dihydro-

thieno[3,2-c]pyridine-5(4H)-acetic acid,

monohydrochloride

Synonym: SR 26334

MF: C<sub>15</sub>H<sub>14</sub>ClNO<sub>2</sub>S • HCl

FW: 344.3 **Purity:** 

Stability: ≥2 years at -20°C Supplied as: A crystalline solid

# • HCI

#### **Laboratory Procedures**

For long term storage, we suggest that clopidogrel carboxylic acid (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

Clopidogrel carboxylic acid (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the clopidogrel carboxylic acid (hydrochloride) in the solvent of choice. Clopidogrel carboxylic acid (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of clopidogrel carboxylic acid (hydrochloride) in these solvents is approximately 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of clopidogrel carboxylic acid (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of clopidogrel carboxylic acid (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

Clopidogrel (Item No. 13657) is an antithrombic compound whose active metabolite is a selective, irreversible antagonist of the platelet purinergic  $P2Y_{12}$  receptor (IC<sub>50</sub> = 100 nM).<sup>1,2</sup> Clopidogrel inhibits ADP-induced platelet aggregation ex vivo and functions as a prodrug whereupon biotransformation to its active thiol metabolite via CYP2C19 in the liver enables its anti-aggregating activity.<sup>3</sup> An estimated 15% of administered clopidogrel is metabolized by CYP2C19 to the thiol metabolite. Clopidogrel carboxylic acid is a major inactive metabolite of clopidogrel. Most (85%) of circulating clopidogrel is hydrolyzed by esterases to this carboxylic acid form. This inactive metabolite can be used as a reference standard for quantitative analysis of clopidogrel metabolism.<sup>5</sup>

#### References

- 1. Savi, P., Labouret, C., Delesque, N., et al. P2Y12, a new platelet ADP receptor, target of clopidogrel. Biochem. Biophys. Res. Commun. 283, 379-83 (2001).
- von Kügelgen, I. Pharmacological profiles of cloned mammalian P2Y-receptor subtypes. Pharmacol. Ther. 110, 415-32
- Quinn, M.J. and Fitzgerald, D.J. Ticlopidine and clopidogrel. Circ. J. 100, 1667-72 (1999).
- Brvar, N., Lachance, S., Lévesque, A., et al. Comparative bioavailability of two oral formulations of clopidogrel: Determination of clopidogrel and its carboxylic acid metabolite (SR26334) under fasting and fed conditions in healthy subjects. Acta Pharm. 64, 45-62 (2014).
- Simeone, J.L., Rainville, P.D., and Plumb, R.S. A high sensitivity UPLC/MS/MS method for the analysis of clopidogrel and clopidogrel carboxylic acid metabolite in human K2EDTA plasma, Waters Corporation (2012).

WARNING: This product is for laboratory research only: not for administration to humans. Not for human or veterinary DIAGNOSTIC OR THERAPEUTIC USE.

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### custserv@caymanchem.com

www.cavmanchem.com

**Mailing address** 

1180 E. Ellsworth Road

Cayman Chemical

Ann Arbor, MI 48108 USA

#### Phone

(800) 364-9897 (734) 971-3335

(734) 971-3640