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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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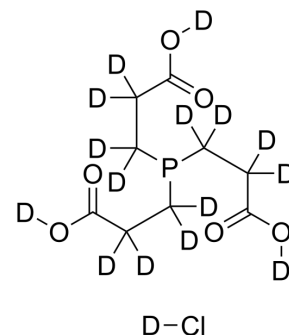
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TCEP-d₁₆ hydrochloride

Cat. No.:	HY-W011500S
CAS No.:	1174025-33-2
Molecular Formula:	C ₉ D ₁₆ ClO ₆ P
Molecular Weight:	302.75
Target:	Isotope-Labeled Compounds
Pathway:	Others
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (330.31 mM; Need ultrasonic and warming)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	3.3031 mL	16.5153 mL	33.0306 mL
5 mM	0.6606 mL	3.3031 mL	6.6061 mL
10 mM	0.3303 mL	1.6515 mL	3.3031 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

TCEP-d₁₆ (hydrochloride) is the deuterium labeled TCEP hydrochloride[1]. TCEP hydrochloride (Tris(2-carboxyethyl)phosphine hydrochloride) is a non-thiol reducing agent that is more stable and produces a faster S-S reductive reaction than other chemical reductants. TCEP hydrochloride is a trialkylphosphine, selectively reduces protein disulfides without altering the properties or interacting with thiol-directed agents in the reaction mixture. TCEP hydrochloride is also a commonly used reducing agent in the DNA/AuNP chemistry[2][3][4][5].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].

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

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Dieguez-Acuña FJ, et al. Inhibition of NF-kappaB-DNA binding by mercuric ion: utility of the non-thiol reductant, tris(2-carboxyethyl)phosphine hydrochloride (TCEP),

on detection of impaired NF-kappaB-DNA binding by thiol-directed agents. *Toxicol In Vitro*. 2000 Feb;14(1):7-16.

[3]. Duchardt F, et al. A cell-penetrating peptide derived from human lactoferrin with conformation-dependent uptake efficiency. *J Biol Chem*. 2009 Dec 25284(52):36099-108.

[4]. Sequeira MA, et al. Modulating amyloid fibrillation in a minimalist model peptide by intermolecular disulfide chemical reduction. *Phys Chem Chem Phys*. 2019 Jun 521(22):11916-11923.

[5]. Wu R, et al. Effects of Small Molecules on DNA Adsorption by Gold Nanoparticles and a Case Study of Tris(2-carboxyethyl)phosphine (TCEP). *Langmuir*. 2019 Oct 1535(41):13461-13468.

[6]. Han JC, Han GY. A procedure for quantitative determination of tris(2-carboxyethyl)phosphine, an odorless reducing agent more stable and effective than dithiothreitol. *Anal Biochem*. 1994220(1):5-10.

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

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