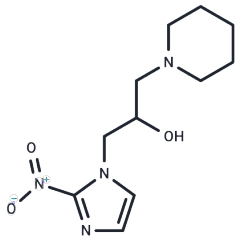
Data Sheet (Cat.No.T16536)

TargetMol

Pimonidazole hydrochloride

Chemical Properties



CAS No. :	70132-51-3
Formula:	C11H19ClN4O3
Molecular Weight:	290.75
Storage:	Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Pimonidazole hydrochloride accumulates in hypoxic cells via covalent binding with macromolecules or by forming reductive metabolites after the reduction of its nitro group. It can be used for qualitative and quantitative assessment of tumor hypoxia. Pimonidazole hydrochloride is a novel hypoxia marker for the complementary study of tumor hypoxia and cell proliferation in tumors.
Targets(IC50)	Others
In vitro	Pimonidazole, the exogenous hypoxia marker, is a 2-nitroimidazole compound, which forms covalent bonds with cellular macromolecules at oxygen levels below 1.3%[3].
In vivo	Pimonidazole is a 2-nitroimidazole that is reductively activated specifically in hypoxic cells and forms stable adducts with thiol groups in proteins, peptides, and amino acids. Additionally, the amount of pimonidazole that is detected is directly proportional to the level of hypoxia within tumors in vivo.

Solubility Information

Solubility	H2O: 30 mg/mL (103.18 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4394 mL	17.1969 mL	34.3938 mL
5 mM	0.6879 mL	3.4394 mL	6.8788 mL
10 mM	0.3439 mL	1.7197 mL	3.4394 mL
50 mM	0.0688 mL	0.3439 mL	0.6879 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Varia MA, et al. Pimonidazole: a novel hypoxia marker for complementary study of tumor hypoxia and cell proliferation in cervical carcinoma. Gynecol Oncol. 1998 Nov;71(2):270-7.
Masaki Y, et al. Imaging Mass Spectrometry Revealed the Accumulation Characteristics of the 2-Nitroimidazole-Based Agent "Pimonidazole" in Hypoxia. PLoS One. 2016 Aug 31;11(8):e0161639.
Aguilera KY, Brekken RA. Hypoxia Studies with Pimonidazole in vivo. Bio Protoc. 2014 Oct 5;4(19):e1254.
Chang WL, Chang YC, Lin KT, Li HR, Pai CY, Chen JH, Su YH. Asymmetric distribution of hypoxia-inducible factor α regulates dorsoventral axis establishment in the early sea urchin embryo. Development. 2017 Aug 15;144(16): 2940-2950.
Evans SM, Kim K, Moore CE, Uddin MI, Capozzi ME, Craft JR, Sulikowski GA, Jayagopal A. Molecular probes for imaging of hypoxia in the retina. Bioconjug Chem. 2014 Nov 19;25(11):2030-7.