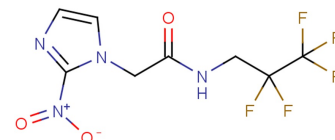


EF-5

Chemical Properties

CAS No.:	152721-37-4
Formula:	C ₈ H ₇ F ₅ N ₄ O ₃
Molecular Weight:	302.16
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	EF-5 is an agent of hypoxia labeling used to identify hypoxia in cells.
Targets(IC ₅₀)	Others: None
In vitro	EF-5 binding and metabolic reduction of the prodrugs are highly correlated in a panel of 14 hypoxic tumor cell lines. Overexpression of CYPOR causes similar 2- to 4-fold increases in EF-5 binding and metabolic reduction of tirapazamine and CEN-209 in SiHa and HCT116 cell lines [1].
In vivo	EF-5 binding is a promising stratification biomarker for benzotriazine-N-oxide bioreductive prodrugs. Binding and detection using a monoclonal antibody in 9L gliomas are specific and oxygen-dependent, following intravenous injection of EF-5. Modification of tumor hypoxia causes similar changes to the bioreductive activation of both agents, resulting in a strong correlation between EF-5 binding and CEN209-induced DNA damage at the individual tumor level [1]. Detection of binding using fluorescence microscopy can be performed on frozen tissues; tissue sections can be counterstained with hematoxylin and eosin for light microscopic analysis. The distribution of hypoxia in a tumor can be inferred by examining individual tumor cells using flow cytometric techniques [2].

Solubility Information

Solubility	DMSO: 125 mg/mL (413.69 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.31 mL	16.548 mL	33.095 mL
5 mM	0.662 mL	3.31 mL	6.619 mL
10 mM	0.331 mL	1.655 mL	3.31 mL
50 mM	0.066 mL	0.331 mL	0.662 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Wang J, et al. The 2-nitroimidazole EF5 is a biomarker for oxidoreductases that activate the bioactive prodrug CEN-209 under hypoxia. Clin Cancer Res. 2012 Mar 15;18(6):1684-95.
2. Evans SM, et al. Identification of hypoxia in cells and tissues of epigastric 9L rat glioma using EF5 [2-(2-nitro-1H-imidazol-1-yl)-N-(2,2,3,3,3-pentafluoropropyl) acetamide]. Br J Cancer. 1995 Oct;72(4):875-82.

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