SPDP

Cat. No.: HY-100216

CAS No.: 68181-17-9

Molecular Formula: $C_{12}H_{12}N_2O_4S_2$

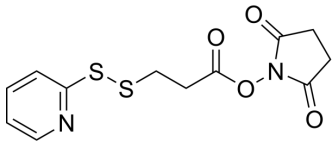
Molecular Weight: 312.37

Target: ADC Linker

Pathway: Antibody-drug Conjugate/ADC Related

Storage: -20°C, protect from light, stored under nitrogen

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (800.33 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2013 mL	16.0067 mL	32.0133 mL
	5 mM	0.6403 mL	3.2013 mL	6.4027 mL
	10 mM	0.3201 mL	1.6007 mL	3.2013 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.66 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.66 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SPDP (SPDP Crosslinker) is a short-chain crosslinker for amine-to-sulfhydryl conjugation via NHS-ester and pyridyldithiol reactive groups that form cleavable (reducible) disulfide bonds with cysteine sulfhydryls. It is a glutathione cleavable ADC linker used for the antibody-drug conjugates (ADCs)[1][2].

IC_{50} & Target		
	Disulfide Cleavable Linker	Cleavable Linker

In Vitro

Equal amounts of anti-CD11c and anti-CTLA-4 Abs (in borate buffered saline; pH 8.5) are activated using SPDP.

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

CUSTOMER VALIDATION

- ACS Appl Mater Interfaces. 2024 Sep 25;16(38):50484-50496.
- Bioeng Transl Med. 2022 Jul 30;8(1):e10377.
- Bioeng Transl Med. 2022 Jul 30;8(1):e10377.
- Colloids Surf B Biointerfaces. 2023 Apr:224:113237.
- Microb Cell Fact. 2021 Mar 10;20(1):67.

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REFERENCES

[1]. Lobedanz S et al. A periplasmic coiled-coil interface underlying TolC recruitment and the assembly of bacterial drug effluxpumps. Proc Natl Acad Sci U S A, 2007 Mar 13, 104(11):4612-7.

[2]. Karumuthil-Melethil S et al. Dendritic cell-directed CTLA-4 engagement during pancreatic beta cell antigen presentation delays type 1diabetes. J Immunol 2010 Jun 15, 184(12):6695-708.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA