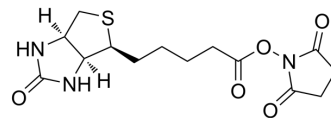


Biotin NHS

Cat. No.:	HY-D0802
CAS No.:	35013-72-0
Molecular Formula:	C ₁₄ H ₁₉ N ₃ O ₅ S
Molecular Weight:	341.38
Target:	Fluorescent Dye
Pathway:	Others
Storage:	-20°C, sealed storage, away from moisture and light * The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro	DMSO : 62.5 mg/mL (183.08 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	2.9293 mL	14.6464 mL	29.2929 mL
		5 mM	0.5859 mL	2.9293 mL	5.8586 mL
	10 mM	0.2929 mL	1.4646 mL	2.9293 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 (6.09 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (6.09 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (6.09 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Biotin NHS is an amino reactive biotin reagent used in the preparation of biotinylated surfaces or polypeptides.
In Vitro	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <p>?Calculations:</p> <p>?For best results, use ≥ 12-fold molar excess of biotin for a 10 mg/mL protein solution or ≥ 20-fold molar excess of biotin for a 2 mg/mL protein solution.</p> <p>?1. Calculate millimoles of biotin reagent to add to the reaction for a 20-fold molar excess:</p> <p>?mL protein × (mg protein/mL protein) × (mmol protein/mg protein) × (20 mmol protein/mmol protein) = mmol Biotin.</p>

?* 20 = Recommended molar fold excess of biotin for 2 mg/ml protein sample
?2. Calculate microliters of 10 mM biotin reagent solution (prepared in Step B.3) to add to the reaction:
$$?mmol \text{ Biotin} \times (1000000 \mu\text{L/L}) \times (\text{L} / 10 \text{ mmol}) = \mu\text{L Biotin}$$

?Biotin Labeling Reaction:
?1. Dissolve 1-10 mg protein in 0.5-2.0 mL PBS according to the calculation made in Calculations.
?2. Before use, prepare a 10 mM solution of the biotin reagent in an organic solvent such as DMSO.
?3. Add the appropriate volume (μL) of 10 mM biotin reagent solution to the protein solution.
?4. Incubate reaction on ice for two hours or at room temperature for 30 minutes.
?5. To tests the labeled protein by ELISA or Western blot.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- ACS Nano. 2023 Feb 14;17(3):2537-2553.
- ACS Nano. 2019 Feb 26;13(2):2501-2510.
- Biomacromolecules. 2019 Jan 14;20(1):469-477.
- J Virol. 2021 May 26;JVI0018721.
- Vet Microbiol. 2023 Apr 11;281:109743.

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REFERENCES

- [1]. Wojchowski DM et al. Hybridoma production by simplified avidin-mediated electrofusion. J Immunol Methods. 1986 Jun 24;90(2):173-7.
- [2]. Ngo TT et al. Biotinyl-glucose-6-phosphate dehydrogenase preparation, kinetics, and modulation by avidin. Appl Biochem Biotechnol. 1982 Nov;7(6):443-54.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

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