Biotinyl tyramide

Cat. No.: HY-125658

CAS No.: 41994-02-9

Molecular Formula: $C_{18}H_{25}N_3O_3S$

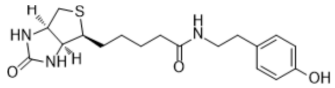
Molecular Weight: 363.47

Target: Fluorescent Dye

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (275.13 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7513 mL	13.7563 mL	27.5126 mL
	5 mM	0.5503 mL	2.7513 mL	5.5025 mL
	10 mM	0.2751 mL	1.3756 mL	2.7513 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 (5.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Biotinyl tyramide is a biotin derivative used for tyramide signal amplification (TSA), as a reagent to amplify both immunohistochemical signals and in situ hybridization protocols. Biotinyl tyramide can be used for the research of tyramide signal amplification[1][2][3][4][5].

In Vitro

Biotinyl tyramide (100 μM, 5min) and hemin (HY-19424) enhance biotinylation of starved U2OS cells after validating the G4-specific biotinylation activity of RNA-hemin complexes in vitro[6].
Biotinyl tyramide (27.5 μM, 5min) binds to the tyrosine side chains of cell surface proteins in HaCaT wild-type cells or

CRISPR-modified dual oxidase 1 (DUOX1) knockout cells[7].

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

CUSTOMER VALIDATION

- Nat Cell Biol. 2022 Apr;24(4):497-512.
- Nat Commun. 2023 Apr 25.
- Genome Biol. 2022 Dec 15;23(1):259.
- Med Rev (2021). 2024 Jun 14;4(6):531-543.

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REFERENCES

[1]. Bobrow M N, et al. Catalyzed reporter deposition, a novel method of signal amplification application to immunoassays [J]. Journal of immunological methods, 1989, 125(1-2): 279-285.

[2]. Kim S H, et al. An improved protocol of biotinylated tyramine-based immunohistochemistry minimizing nonspecific background staining [J]. Journal of Histochemistry & Cytochemistry, 2003, 51(1): 129-132.

[3]. Hunyady B, et al. Immunohistochemical signal amplification by catalyzed reporter deposition and its application in double immunostaining [J]. Journal of Histochemistry & Cytochemistry, 1996, 44(12): 1353-1362.

[4]. Evans M F, et al. Optimization of biotinyl-tyramide-based in situ hybridization for sensitive background-free applications on formalin-fixed, paraffin-embedded tissue specimens [J]. BMC Clinical Pathology, 2003, 3: 1-17.

[5]. Kharel P, et al. Stress promotes RNA G-quadruplex folding in human cells [J]. Nature Communications, 2023, 14(1): 205.

[6]. Pató A, et al. Hydrogen peroxide production by epidermal dual oxidase 1 regulates nociceptive sensory signals [J]. Redox Biology, 2023, 62: 102670.

[7]. Dráberová E, et al. Quantification of α-tubulin isotypes by sandwich ELISA with signal amplification through biotinyl-tyramide or immuno-PCR [J]. Journal of immunological methods, 2013, 395(1-2): 63-70.

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