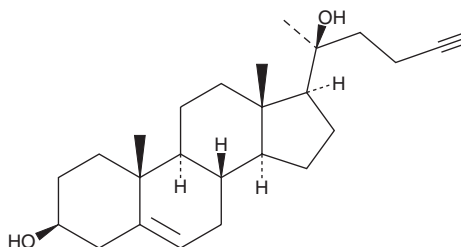


PRODUCT INFORMATION



Nat-20(S)-yne Item No. 9001369

CAS Registry No.: 1397692-46-4
Formal Name: 26,27-dinorcholest-5-en-24-yne-3 β ,20-diol
Synonym: Click Tag™ Nat-20(S)-yne
MF: C₂₅H₃₈O₂
FW: 370.6
Purity: ≥90%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nat-20(S)-yne is supplied as a crystalline solid. A stock solution may be made by dissolving the nat-20(S)-yne in the solvent of choice. Nat-20(S)-yne is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of nat-20(S)-yne in these solvents is approximately 10, 0.5, and 14 mg/ml, respectively.

Nat-20(S)-yne is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Smoothened (SMO) is a GPCR-like receptor which, with Patched, mediates hedgehog signaling to regulate gene expression through the Gli transcription factors.¹ 20(S)-hydroxy Cholesterol (20(S)-OHC) is an oxysterol which binds SMO and activates hedgehog signaling (EC₅₀ = 3 μM), and this activation is selective for the nat-20(S)-OHC enantiomer.² Nat-20(S)-OHC synergizes with the SMO agonist SAG, suggesting an allosteric effect.² Nat-20(S)-yne is a form of nat-20(S)-OHC with a terminal alkyne group, which can be used in linking reactions known as click chemistry. Click chemistry involves highly dependable and specific azide-alkyne bioconjugation reactions and can be used to capture or immobilize bioactive molecules.^{3,4} Thus, nat-20(S)-yne has been conjugated with magnetic beads to demonstrate that nat-20(S)-OHC directly binds SMO.²

References

1. Ruiz-Gómez, A., Molnar, C., Holguín, H., *et al.* The cell biology of Smo signalling and its relationships with GPCRs. *Biochim. Biophys. Acta* **1768**(4), 901-912 (2007).
2. Nachtergaele, S., Mydock, L.K., Krishnan, K., *et al.* Oxysterols are allosteric activators of the oncoprotein Smoothened. *Nat. Chem. Biol.* **8**(2), 211-220 (2012).
3. Kho, Y., Kim, S.C., Jiang, C., *et al.* A tagging-via-substrate technology for detection and proteomics of farnesylated proteins. *Proc. Natl. Acad. Sci. USA* **101**(34), 12479-12484 (2004).
4. Lutz, J.-F. and Zarafshani, Z. Efficient construction of therapeutics, bioconjugates, biomaterials and bioactive surfaces using azide-alkyne “click” chemistry. *Adv. Drug Deliv. Rev.* **60**, 958-970 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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