

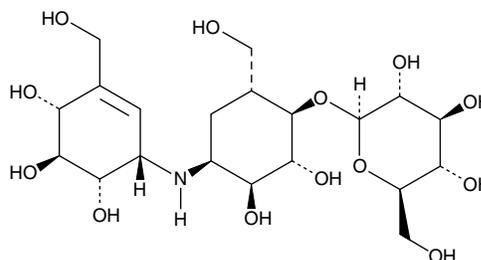
Product Information



Validamycin A

Item No. 15326

CAS Registry No.: 37248-47-8
Formal Name: 1,5,6-trideoxy-4-O-β-D-glucopyranosyl-5-(hydroxymethyl)-1-[[[(1S,4R,5S,6S)-4,5,6-trihydroxy-3-(hydroxymethyl)-2-cyclohexen-1-yl]amino]-D-chiro-inositol
Synonym: Validacin
MF: C₂₀H₃₅NO₁₃
FW: 497.5
Purity: ≥60%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that validamycin A be stored as supplied at -20°C. It should be stable for at least two years.

Validamycin A is supplied as a crystalline solid. A stock solution may be made by dissolving the validamycin A in the solvent of choice. Validamycin A is soluble in DMSO at a concentration of approximately 2 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of validamycin A can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of validamycin A in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Validamycin A is an antifungal agent used to protect rice plants against sheath blight caused by the pathogenic fungus, *R. solani*, due to its ability to inhibit trehalase, a trehalose-hydrolyzing enzyme ($K_i = 1.9$ nM; $IC_{50} = 0.7$ μM).¹ It is also effective against the growth and sporulation of *R. cerealis*, *F. culmorum*, and other fungi.² This compound has also been used to study trehalase activity and trehalose biosynthesis.³

References

- Asano, N., Yamaguchi, T., Kameda, Y., *et al.* Effect of validamycins on glycohydrolases of *Rhizoctonia solani*. *J. Antibiot. (Tokyo)* **40**(4), 526-532 (1987).
- Robson, G.D., Kuhn, P.J., and Trinci, A.P. Effects of validamycin A on the morphology, growth and sporulation of *Rhizoctonia cerealis*, *Fusarium culmorum* and other fungi. *J. Gen. Microbiol.* **134**(12), 3187-3194 (1988).
- Goddijn, O.J., Verwoerd, T.C., Voogd, E., *et al.* Inhibition of trehalase activity enhances trehalose accumulation in transgenic plants. *Plant Physiol.* **113**(1), 181-190 (1997).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/15326

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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