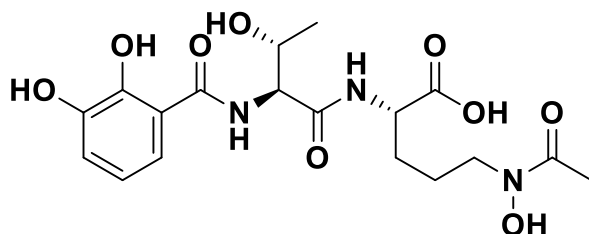


PRODUCT DATA SHEET

Date: Aug. 26, 2021

Vanoxonin (Inhibitor for thymidylate synthetase)



Synonyms:

Specifications

Code No.	: 10744
CAS#	: 86933-99-5
Molecular Formula	: C ₁₈ H ₂₅ N ₃ O ₉
Molecular Weight	: 427.410
Source	: <i>Saccharopolyspora hirsuta</i> MG245-CF2
Appearance	: white powder
Purity	: >80% (HPLC)
Long Term Storage	: at - 20 °C
Solubility	: Soluble in MeOH, DMSO, Acetic Acid and H ₂ O Insoluble in Ethyl acetate, CHCl ₃ and n-Hexane

Application Notes

Vanoxonin is found in cultured broth of *Saccharopolyspora hirsuta* MG245-CF2 as an inhibitor of thymidylate synthetase.^{1,2)} Vanoxonin forms a vanadium complex which exhibits a strong inhibition against the synthetase.¹⁾ The concentration for 50% inhibition of thymidylate synthetase is 200 µg/mL in the absence of vanadium, but 0.7 µg/mL in complex with vanoxonin-V⁵⁺.¹⁾ The *in vitro* cytotoxic activity of the complex was examined against L-1210 lymphatic leukemia cells, and the minimum inhibitory concentration of the complex was 25 µg/mL. ¹⁾ The structure-activity relationship has been studied.³⁾

References

- 1) Vanoxonin, a new inhibitor of thymidylate synthetase. Kanai F, *et al. J Antibiot.* 1983 **36**(6) 656-660.
- 2) Vanoxonin, a new inhibitor of thymidylate synthetase. II. Structure determination and total synthesis. Kanai F, *et al. J Antibiot.* 1985 **38**(1) 31-38.
- 3) Vanoxonin, a new inhibitor of thymidylate synthetase. III. Inhibition of thymidylate synthetase by vanoxonin-vanadium complex. Kanai F, *et al. J Antibiot.* 1985 **38**(1) 39-50.