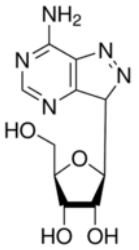
3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Formycin A
from *Streptomyces kaniharaensis*

Catalog Number **SMB00287**
Storage Temperature –20 °C

CAS RN 6742-12-7
Synonyms: Formycin; NSC 102811;
8-Aza-9-deazaadenosine;
1H-Pyrazolo[4,3-d]pyrimidine, D-ribitol deriv.;
1H-Pyrazolo[4,3-d]pyrimidine, 7-amino-
3-β-D-ribofuranosyl- (7CI,8CI);



Product Description

Molecular formula: $C_{10}H_{13}N_5O_4$
Molecular weight: 267.24

Formycin A (FA) is a C-nucleoside, that inhibits the *E.coli* enzyme purine nucleoside phosphorylase (PNP).[1] FA was found to upsurge insulin release elevated by glucose,[2] and was also shown to inhibit 5′-Methylthioadenosine/S-adenosylhomocysteine (MTA/AdoHcy) nucleosidase, an enzyme important in the recycling of methionine.[3] Research has shown FA to be an antiretroviral agent against HIV-1, targeting reverse transcription.[4]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Formycin A is soluble in water (3 mg/ml) and DMSO (1 mg/ml).

Storage/Stability

Store the product sealed at –20 °C. Under these conditions the product is stable for at least 4 years.

References

1. Bzowska, A. et al., Formycins A and B and some analogues: selective inhibitors of bacterial (*Escherichia coli*) purine nucleoside phosphorylase. Biochim. Biophys. Acta, **1120**, 239-247 (1992).
2. Malaisse, W.J. et al., The riddle of formycin A insulinotropic action. Biochem. Mol. Med., **57**, 47-63 (1996).
3. Lee, J.E. et al., Structure of *Escherichia coli* 5′-methylthioadenosine/ S-adenosylhomocysteine nucleosidase inhibitor complexes provide insight into the conformational changes required for substrate binding and catalysis. J. Biol. Chem., **278**, 8761-8770 (2003).
4. Dapp, M.J. et al., Discovery of novel ribonucleoside analogs with activity against human immuno-deficiency virus type 1. J. Virol., **88**, 354-363 (2014).

DWF,MAM 07/14-1