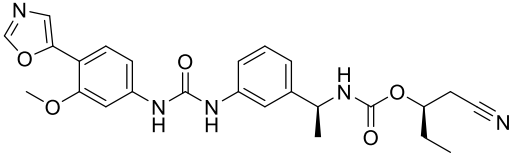


Product data sheet



MedKoo Cat#: 200390 Name: AVN-944 CAS#: 297730-17-7 Chemical Formula: C ₂₅ H ₂₇ N ₅ O ₅ Exact Mass: 477.20122 Molecular Weight: 477.51	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

AVN-944 (VX-944) is an orally available, synthetic small molecule with potential antineoplastic activity. AVN944 inhibits inosine monophosphate dehydrogenase (IMPDH), an enzyme involved in the de novo synthesis of guanosine triphosphate (GTP), a purine molecule required for DNA and RNA synthesis. Inhibition of IMPDH deprives cancer cells of GTP, resulting in disruption of DNA and RNA synthesis, inhibition of cell proliferation, and the induction of apoptosis. AVN944 appears to have a selective effect on cancer cells in that deprivation of GTP in normal cells results in a temporary slowing of cell growth only. IMPDH is overexpressed in some cancer cells, particularly in hematological malignancies.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	65.0	136.12
DMSO:PBS (pH 7.2) (1:3)	0.25	0.52
DMF	30.0	62.83

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.09 mL	10.47 mL	20.94 mL
5 mM	0.42 mL	2.09 mL	4.19 mL
10 mM	0.21 mL	1.05 mL	2.09 mL
50 mM	0.04 mL	0.21 mL	0.42 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Dunham EC, Leske A, Shifflett K, Watt A, Feldmann H, Hoenen T, Groseth A. Lifecycle modelling systems support inosine monophosphate dehydrogenase (IMPDH) as a pro-viral factor and antiviral target for New World arenaviruses. *Antiviral Res.* 2018 Sep;157:140-150. doi: 10.1016/j.antiviral.2018.07.009. Epub 2018 Jul 19. PMID: 30031760.
- Ishitsuka K, Hideshima T, Hamasaki M, Raje N, Kumar S, Podar K, Le Gouill S, Shiraishi N, Yasui H, Roccaro AM, Tai YZ, Chauhan D, Fram R, Tamura K, Jain J, Anderson KC. Novel inosine monophosphate dehydrogenase inhibitor VX-944 induces apoptosis in multiple myeloma cells primarily via caspase-independent AIF/Endo G pathway. *Oncogene.* 2005 Sep 1;24(38):5888-96. doi: 10.1038/sj.onc.1208739. PMID: 15940263.

In vivo study

TBD

Product data sheet



7. Bioactivity

Biological target:

AVN-944(VX-944) is a selective, noncompetitive inhibitor of the enzyme directed against human IMPDH with K_i of 6-10 nM for IMPDH1/IMPDH2.

In vitro activity

The effect of VX-944 on growth of MM cell lines was determined using the MTT assay. VX-944 significantly inhibited the growth of RPMI8226, MM.1S, and U266 cells in a dose-dependent fashion, with 50% inhibition (IC_{50}) values at 48 h of 450, 450, and 600 nM, respectively. VX-944 also inhibited growth of drug-resistant cell lines, including doxorubicin (Dox)-resistant RPMI8226-Dox40, melphalan (Mel) resistant RPMI8226-LR5, and Dex (dexamethasone) resistant MM.1R cells, with IC_{50} values similar to the parental drug-sensitive cell lines (Figure 1a).

Reference: Oncogene. 2005 Sep 1;24(38):5888-96. <https://pubmed.ncbi.nlm.nih.gov/15940263/>

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.