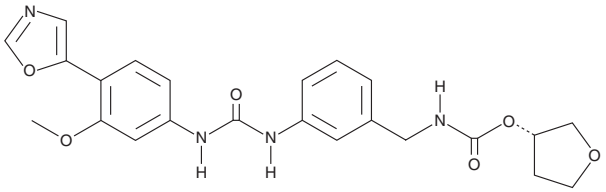
PRODUCT INFORMATION

Merimepodib

Item No. 29351

CAS Registry No.:	198821-22-6
Formal Name:	N-[[3-[[[[3-methoxy-4-(5-oxazolyl) phenyl]amino]carbonyl]amino] phenyl]methyl]-carbamic acid, (3S)-tetrahydro-3-furanyl ester
Synonym:	VX-497
MF:	$C_{23}H_{24}N_4O_6$
FW:	452.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 228, 287, 309, 320 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Merimepodib is supplied as a crystalline solid. A stock solution may be made by dissolving the merimepodib in the solvent of choice, which should be purged with an inert gas. Merimepodib is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of merimepodib in these solvents is approximately 30 mg/ml.

Merimepodib is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, merimepodib should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Merimepodib has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Merimepodib is an inhibitor of inosine-5'-monophosphate dehydrogenase (IMPDH; K_is = 7 and 10 nM for IMPDH type I and type II, respectively) with antiviral and immunosuppressant activities.[1] It reduces Ebola, Lassa, chikungunya, Junin, and Zika virus titers *in vitro* and inhibits Zika virus replication in Huh7 cells (EC_{50} = 0.6 µM).[2] Merimepodib inhibits the proliferation of PHA-stimulated T cells and SPAS-stimulated B cells (IC_{50}s = 104 and 132 nM, respectively), effects that can be reversed by guanosine (Item No. 27702) but not adenosine (Item No. 21232).[3] *In vivo*, merimepodib (50 and 100 mg/kg) increases allograft survival in a murine skin transplantation model and prevents development of graft versus host disease (GVHD) in splenocyte allografted mice.[4]

References

1. Sintchak, M.D. and Nimmesgern, E. The structure of inosine 5'-monophosphate dehydrogenase and the design of novel inhibitors. *Immunopharmacology* **47(2-3)**, 163-184 (2000).
2. Tong, X., Smith, J., Bukreyeva, N., *et al.* Merimepodib, an IMPDH inhibitor, suppresses replication of Zika virus and other emerging viral pathogens. *Antiviral Res.* **149**, 34-40 (2018).
3. Jain, J., Almquist, S.J., Shlyakhter, D., *et al.* VX-497: A novel, selective IMPDH inhibitor and immunosuppressive agent. *J. Pharm. Sci.* **90(5)**, 625-637 (2001).
4. Decker, C.J., Heiser, A.D., Chaturvedi, P.R., *et al.* The novel IMPDH inhibitor VX-497 prolongs skin graft survival and improves graft versus host disease in mice. *Drugs Exp. Clin. Res.* **27(3)**, 89-95 (2001).

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