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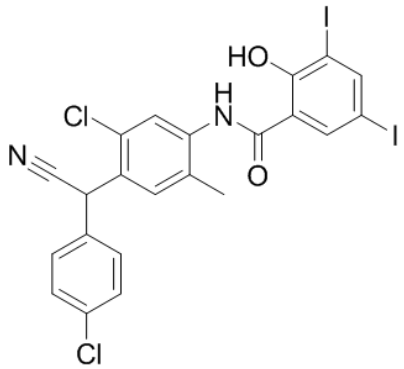
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	Closantel
Cat. No.	:	PC-45380
CAS No.	:	57808-65-8
Molecular Formula	:	$C_{22}H_{14}Cl_2I_2N_2O_2$
Molecular Weight	:	663.0737
Target	:	Parasite
Solubility	:	DMSO: ≥ 49 mg/mL



Biological Activity

Closantel (FICD inhibitor C22) is a veterinary anthelmintic with known proton ionophore activities, also is a small molecule inhibitor of the AMP transferase **FICD** with IC50 of 7.27 uM.
Closantel (FICD inhibitor C22) is identified as a potent and specific inhibitor of filarial chitinases; also shows to be an allosteric inhibitor of SPAK and OSR1.
FICD inhibitor C22 is a small molecule inhibitor of the AMP transferase FICD with IC50 of 7.27 uM, significantly inhibits FICD-mediated BiP/GRP78 AMPylation in intact cells, while only weakly inhibiting BiP/GRP78 deAMPylation.
FICD inhibitor C22 also efficiently inhibit pathogenic FICD variants and improve proinsulin processing in β cells.
FICD is a bi-functional enzyme, catalyzing both AMP addition (AMPylation) and removal (deAMPylation) from the ER resident chaperone BiP/GRP78.

References

AlAmri MA, et al. ***ChemMedChem.*** 2017 May 9;12(9):639-645.

Gloeckner C, et al. ***Proc Natl Acad Sci U S A.*** 2010 Feb 23;107(8):3424-9.

E-mail: tech@probechem.com