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DATASHEET

Tamoxifen Citrate

Product overview

Name	Tamoxifen Citrate
Cat No	HB0602
Alternative names	TAM
Biological action	Antagonist
Purity	>98%
Description	Estrogen receptor antagonist/ partial agonist. May be used in genome engineering (e.g. CreER/ CRISPR-Cas9). Citrate salt.

Images

Biological Data

Biological description

Citrate salt of Tamoxifen, which is an estrogen receptor antagonist and partial agonist. It is also a potent chloride channel HSV-1 inhibitor and is blood brain barrier permeable.

Tamoxifen inhibits tumor growth and induces apoptosis in breast cancer cells. It also selectively inhibits sterol biosynthesis (IC_{50} = 1000 nM) and shows neuroprotective potential.

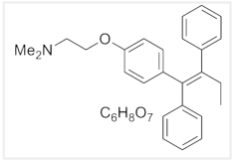
It is used in gene editing in which tamoxifen (Tm)-inducible Cre recombinases are widely used to perform gene inactivation and lineage tracing studies in mice.

It can also switch on the inducible CRISPR-Cas9 system (iCas).

Solubility & Handling

Storage instructions	+4°C
Solubility overview	Soluble in Dimethylsulfoxide (100mM), and in ethanol (5 mM with warming)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	(Z)-2-[4-(1,2-Diphenyl-1-butenyl)phenoxy]-N,N-dimethylethanamine citrate
Molecular Weight	563.7
Chemical structure	
Molecular Formula	$C_{32}H_{37}NO_8$
CAS Number	54965-24-1
PubChem identifier	2733525
SMILES	CCC(=C(C1=CC=CC=C1)C2=CC=C(C=C2)OCCN(C)C)C3=CC=CC=C3.C(C(=O)O)C(CC(=O)O)(C(=O)O)O
InChi	InChI=1S/C26H29NO.C6H8O7/c1-4-25(21-11-7-5-8-12-21)26(22-13-9-6-10-14-22)23-15-17-24(18-16-23)28-20-19-27(2)3;7-3(8)1-6(13,5(11)12)2-4(9)10/h5-18H,4,19-20H2,1-3H3;13H,1-2H2,(H,7,8)(H,9,10)(H,11,12)/b26-25-;
InChiKey	FQZYTYWMLGAPFJ-OQKDUQJOSA-N
MDL number	MFCD00058321
Appearance	White solid

References

Tamoxifen inhibits inward rectifier K+ 2.x family of inward rectifier channels by interfering with phosphatidylinositol 4,5-bisphosphate-channel interactions.

Ponce-Balbuena D *et al* (2009) J Pharmacol Exp Ther 331(2)
PubMedID 19654266

Both the immunosuppressant SR31747 and the antiestrogen tamoxifen bind to an emopamil-insensitive site of mammalian Delta8-Delta7 sterol isomerase.

Paul R *et al* (1998) J Pharmacol Exp Ther 285(3)
PubMedID 9618436

Growth inhibition of estrogen receptor-positive and aromatase-positive human breast cancer cells in monolayer and spheroid cultures by letrozole, anastrozole, and tamoxifen.

Kijima I *et al* (2005) J Steroid Biochem Mol Biol 97(4)
PubMedID 16263272

Inhibition of herpes simplex virus type 1 entry by chloride channel inhibitors tamoxifen and NPPB.

Zheng K *et al* (2014) Biochem Biophys Res Commun 446(4)
PubMedID 24657267

A Chemical-Inducible CRISPR-Cas9 System for Rapid Control of Genome Editing

Liu et al (2016) Nat Chem Biol. 12(11)
PubMedID 27618190