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DATASHEET

4-DAMP

Product overview

Name	4-DAMP
Cat No	HB1505
Biological action	Antagonist
Purity	>99%
Description	Selective M_3 receptor antagonist

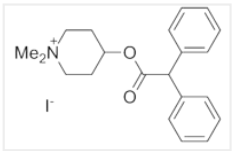
Biological Data

Biological description	Selective M_3 muscarinic receptor antagonist. Blocks [^{3}H]-scopolamine binding to muscle cells expressing M_3 and M_2 (IC_{50} values are 0.4 nM and 15 µM respectively).

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (25mM)
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	1,1-Dimethyl-4-diphenylacetoxypiperidinium iodide
Molecular Weight	451.33
Chemical structure	
Molecular Formula	$C_{21}H_{26}INO_2$
CAS Number	1952-15-4
PubChem identifier	3014059
SMILES	[I-].C[N+]1(C)CCC(CC1)OC(=O)C(C1=CC=CC=C1)C1=CC=CC=C1
InChi	InChI=1S/C21H26NO2.HI/c1-22(2)15-13-19(14-16-22)24-21(23)20(17-9-5-3-6-10-17)18-11-7-4-8-12-18;/h3-12,19-20H,13-16H2,1-2H3;1H/q+1;/p-1
InChiKey	WWJHRSCUAQPFQO-UHFFFAOYSA-M
MDL number	MFCD00078564
Appearance	White solid

References

Differential coupling of muscarinic m2 and m3 receptors to adenylyl cyclases V/VI in smooth muscle. Concurrent M2-mediated inhibition via Galphai3 and m3-mediated stimulation via Gbetagammaq.

Murthy KS *et al* (1997) J Biol Chem 272(34)

PubMedID 9261144

The use of a modified [3H]4-DAMP radioligand binding assay with increased selectivity for muscarinic M3 receptor shows that cortical CHRM3 levels are not altered in mood disorders.

Jeon WJ *et al* (2013) Prog Neuropsychopharmacol Biol Psychiatry 47
PubMedID 23962466

Regional binding of 4-diphenylacetoxy-N-methylpiperidine methobromide (4-DAMP) to muscarinic receptors in rat brain and comparative analysis of minimum energy conformations.

Collins D *et al* (1993) Neurochem Int 22(3)
PubMedID 8443567