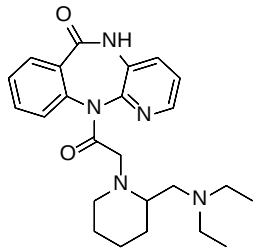
Product data sheet

MedKoo Cat#: 591289 Name: Otenzepad CAS: 102394-31-0 Chemical Formula: $C_{24}H_{31}N_5O_2$ Exact Mass: 421.2478 Molecular Weight: 421.545	
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:

Otenzepad, also known as AF-DX 116, is a selective M2 antagonist. Oral AF-DX 116 resulted in greater elevation of DBP than SBP in unstressed rats. In stressed rats, greater and more prolonged elevation of SBP than in unstressed rats was noted, particularly at higher doses. he effects of AF-DX 116 on blood pressure and heart rate thus may arise from peripheral action and AF-DX 116 may be useful for treating hypotension related to autonomic imbalance of the vagotonia type.

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	25.0	59.31

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.37 mL	11.86 mL	23.72 mL
5 mM	0.47 mL	2.37 mL	4.74 mL
10 mM	0.24 mL	1.19 mL	2.37 mL
50 mM	0.05 mL	0.24 mL	0.47 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

1. Gigout S, Wierschke S, Lehmann TN, Horn P, Dehnicke C, Deisz RA. Muscarinic acetylcholine receptor-mediated effects in slices from human epileptogenic cortex. Neuroscience. 2012 Oct 25;223:399-411. doi: 10.1016/j.neuroscience.2012.07.044. Epub 2012 Jul 31. PMID: 22863677.

In vivo study

1. Kopf SR, Boccia MM, Baratti CM. AF-DX 116, a presynaptic muscarinic receptor antagonist, potentiates the effects of glucose and reverses the effects of insulin on memory. Neurobiol Learn Mem. 1998 Nov;70(3):305-13. doi: 10.1006/nlme.1998.3855. PMID: 9774523.
2. Packard MG, Regenold W, Quirion R, White NM. Post-training injection of the acetylcholine M2 receptor antagonist AF-DX 116 improves memory. Brain Res. 1990 Jul 30;524(1):72-6. doi: 10.1016/0006-8993(90)90493-u. PMID: 2400933.

7. Bioactivity

Biological target:

Otenzepad (AF-DX 116) is a selective and competitive M2 muscarinic acetylcholine receptor antagonist.

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In vitro activity

This study investigated the effect of the mAChR agonist carbachol (CCh) and various mAChR antagonists in human cortical slices (from tissue removed during neurosurgical treatment of epilepsy) by intracellular and extracellular recordings. AF-DX 116 prevented the CCh-induced depression of evoked EPSP when applied before CCh. CCh also depressed GABAergic transmission and this effect was antagonised by AF-DX 116.

Reference: Neuroscience. 2012 Oct 25;223:399-411. https://pubmed.ncbi.nlm.nih.gov/22863677/

In vivo activity

The present study examined the effect of systemic post-training administration of the acetylcholine muscarinic M2 receptor antagonist AF-DX 116 on the acquisition of two 8-arm radial maze tasks. AF-DX 116 (0.5 and 1.0 mg/kg) significantly improved win-stay acquisition relative to vehicle-injected controls. AF-DX 116 (2.0 mg/kg) significantly improved retention relative to vehicle controls. The results demonstrate that post-training injection of the selective M2 receptor antagonist AF-DX 116 improves memory in a time-dependent manner.

Reference: Brain Res. 1990 Jul 30;524(1):72-6. https://pubmed.ncbi.nlm.nih.gov/2400933/

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.