

Product data sheet



MedKoo Cat#: 562321 Name: Ipsapirone CAS: 95847-70-4 (free base) Chemical Formula: C ₁₉ H ₂₃ N ₅ O ₃ S Exact Mass: 401.1522 Molecular Weight: 401.485		
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:

Ipsapirone, also known as BAY q 7821, is a new pyrimidinylpiperazine ligand potent and specific for 5-HT_{1A} receptors. Ipsapirone hydrochloride has potential therapeutic use in affective disorders.

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
DMF	10.0	24.91
DMSO	12.01	29.90
DMSO:PBS (pH 7.2) (1:40)	0.025	0.06

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.49 mL	12.45 mL	24.91 mL
5 mM	0.50 mL	2.49 mL	4.98 mL
10 mM	0.25 mL	1.25 mL	2.49 mL
50 mM	0.05 mL	0.25 mL	0.50 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

- Mendiguren A, Aostri E, Alberdi E, Pérez-Samarín A, Pineda J. Functional characterization of cannabidiol effect on the serotonergic neurons of the dorsal raphe nucleus in rat brain slices. *Front Pharmacol.* 2022 Sep 6;13:956886. doi: 10.3389/fphar.2022.956886. PMID: 36147343; PMCID: PMC9485894.
- Borroto-Escuela DO, Li X, Tarakanov AO, Savelli D, Narváez M, Shumilov K, Andrade-Talavera Y, Jimenez-Beristain A, Pomierny B, Díaz-Cabiale Z, Cuppini R, Ambrogini P, Lindskog M, Fuxe K. Existence of Brain 5-HT_{1A}-5-HT_{2A} Isoreceptor Complexes with Antagonistic Allosteric Receptor-Receptor Interactions Regulating 5-HT_{1A} Receptor Recognition. *ACS Omega.* 2017 Aug 31;2(8):4779-4789. doi: 10.1021/acsomega.7b00629. Epub 2017 Aug 22. PMID: 28920103; PMCID: PMC5597955.

In vivo study

- Tissier MH, Lainey E, Fattaccini CM, Hamon M, Adrien J. Effects of ipsapirone, a 5-HT_{1A} agonist, on sleep/wakefulness cycles: probable post-synaptic action. *J Sleep Res.* 1993 Jun;2(2):103-109. doi: 10.1111/j.1365-2869.1993.tb00070.x. PMID: 10607079.
- Korte SM, Bouws GA, Koolhaas JM, Bohus B. Neuroendocrine and behavioral responses during conditioned active and passive behavior in the defensive burying/probe avoidance paradigm: effects of ipsapirone. *Physiol Behav.* 1992 Aug;52(2):355-61. doi: 10.1016/0031-9384(92)90284-9. PMID: 1355919.

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7. Bioactivity

Biological target:

Ipsapirone (TVX Q 7821) is an anxiolytic compound and a 5-HT_{1A} receptor partial agonist. Ipsapirone (TVX Q 7821) also exhibits 5-HT_{1A} receptor antagonistic effect, and only at high doses it can also produce an inhibitory effect on 5-HT₂ and the α_1 -adrenergic function.

In vitro activity

Perfusion with ipsapirone (100 nM, 10 min) inhibited the firing rate of DRN 5-HT cells (maximal change in the firing rate: $94.49 \pm 3.34\%$, n = 13) (Figures 2C,E).

Reference: Front Pharmacol. 2022 Sep 6;13:956886. <https://pubmed.ncbi.nlm.nih.gov/36147343/>

In vivo activity

The effects of ipsapirone, a ligand of the 5-HT_{1A} receptors and a new potential anxiolytic, on sleep/wakefulness regulation were examined in the rat. The effects of ipsapirone (3 mg kg⁻¹) persisted after infusion of the neurotoxin 5,7-dihydroxytryptamine into the dorsal raphe nucleus which induced the sub-total destruction of the serotonergic system.

Reference: J Sleep Res. 1993 Jun;2(2):103-109. <https://pubmed.ncbi.nlm.nih.gov/10607079/>

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.