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## **DATASHEET** Citalopram hydrobromide

Product overview

NameCitalopram hydrobromideCat NoHB2142Alternative namesLu 10-171Biological actionInhibitorPurity>98%DescriptionPotent, selective 5-HT uptake inhibitor

## Images



# **Biological Data**

**Biological description** 

**Application notes** 

Potent, selective 5-HT uptake inhibitor ( $K_i = 0.75$  nM at SERT and IC<sub>50</sub> values are 1.8, ~8,000 and ~40,000 nM for 5-HT, noradrenaline and dopamine uptake respectively). Shows antidepressant effects. Active *in vivo*.

Fig 1: Citalopram increases positive feedback sensitivity in rats within a probabilistic reward learning task.

Citalopram is a SSRI, widely used to investigate 5-HT neurotransmission. Citalopram from Hello Bio increases positive feedback sensitivity in rats completing a probabilistic reward learning task (see Fig 1 above, Rm-ANOVA,  $F_{3,47} = 3.8$ , p = 0.019).

#Protocol 1: Measurement of citalopram induced changes in positive feedback sensitivity within a probabilistic reward learning task.

- Lister hooded rats were trained in the probabilistic reversal learning task (see Wilkinson et al, 2020)
- Animals were injected with either 0, 1, 3 or 10 mg/kg citalopram in 0.9% saline intraperitoneally 30 minutes before a session.
- All animals had all doses of citalopram in a blinded, fully counterbalanced and within subject design.
- Positive feedback sensitivity was taken as win-stay probability: the probability that if an animal was rewarded at a stimulus they would return on the next trial.
- Statistics: Rm-ANOVA, Main effect of treatment: F3,47 = 3.8, p = 0.019. Sidak corrected posthocs: 3mg/kg vs 0 mg/kg: t<sub>33</sub> = 3.0, p = 0.013; 10mg/kg vs 0mg/kg: t<sub>33</sub> = 2.6, p = 0.041

Storage instructions Solubility overview Important Room temperature Soluble in water (10mM) and ethanol (50mM) 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 Molecular Weight Chemical structure	1-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-5-isobenzofurancarbonitril e hydrobromide 405.31
	HBr F NC
Molecular Formula	$C_{20}H_{21}FN_2O.HBr$
CAS Number	59729-32-7
PubChem identifier	77995
SMILES	CN(C)CCCC1(C2=C(CO1)C=C(C=C2)C#N)C3=CC=C(C=C3)F.Br
InChi	InChI=1S/C20H21FN2O.BrH/c1-23(2)11-3-10-20(17-5-7-18(21)8-6-17)19-9-4-15(13-22)12-16(19)14
	-24-20:/h4-9.12H.3.10-11.14H2.1-2H3:1H
InChiKev	WIHMBLDNRMIGDW-UHFFFAOYSA-N
MDL number	MECD02101306
Appearance	White solid

### **References**

### Citalopram--pharmacological profile of a specific serotonin uptake inhibitor with antidepressant activity.

Hyttel J (1982) Prog Neuropsychopharmacol Biol Psychiatry 6(3) **PubMedID** 6128769

### Neurotransmitter receptor and transporter binding profile of antidepressants and their metabolites.

 Owens MJ et al (1997) J Pharmacol Exp Ther 283(3)

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 9400006

#### Preclinical pharmacology of citalopram.

 Popik P (1999) J Clin Psychopharmacol 19(5 Suppl 1)

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