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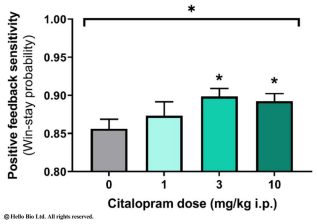
DATASHEET

Citalopram hydrobromide

Product overview

Name	Citalopram hydrobromide
Cat No	HB2142
Alternative names	Lu 10-171
Biological action	Inhibitor
Purity	>98%
Description	Potent, selective 5-HT uptake inhibitor

Images



Biological Data

Biological description

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

Application notes

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).

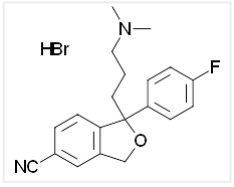
#Protocol 1: Measurement of citalopram induced changes in positive feedback sensitivity within a probabilistic reward learning task.

- 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_{33} = 3.0, p = 0.013; 10mg/kg vs 0mg/kg: t_{33} = 2.6, p = 0.041

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (10mM) and ethanol (50mM)
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-[3-(dimethylamino)propyl]-1-(4-fluorophenyl)-1,3-dihydro-5-isobenzofurancarbonitril e hydrobromide
Molecular Weight	405.31
Chemical structure	
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
InChiKey	WIHMBLDNRMIGDW-UHFFFAOYSA-N
MDL number	MFCD02101306
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)
PubMedID 9400006

Preclinical pharmacology of citalopram.

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