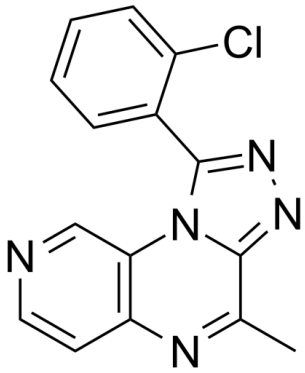
Data Sheet

Product Name:	PDE2/PDE10-IN-1
Cat. No.:	CS-0035357
CAS No.:	1426833-08-0
Molecular Formula:	$C_{15}H_{10}ClN_5$
Molecular Weight:	295.73
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 12.5 mg/mL (42.27 mM; ultrasonic and warming and heat to 60°C)



BIOLOGICAL ACTIVITY:

PDE2/PDE10-IN-1 is a phosphodiesterase 2 (**PDE2**) and **PDE10** inhibitor with **IC_{50}**s of 29 and 480 nM, respectively. IC50 & Target: IC50: 29 nM (hPDE2A), 480 nM (rPDE10A), 5890 nM (hPDE4D), 6920 nM (hPDE11A), >10000 nM (hPDE1A, hPDE3B, hPDE5A, hPDE6AB, hPDE7A and hPDE9A)[1] **In Vitro:** PDE2/PDE10-IN-1 (Compound 6) inhibits PDE2 and PDE10, respectively, with an IC_{50} value of 29 and 480 nM. PDE2/PDE10-IN-1 also inhibits PDE11A and PDE4D with IC_{50}s of 6920 nM and 5890 nM, respectively. In addition PDE2/PDE10-IN-1 does not show significant inhibition of a panel of CYP450 enzymes (CYP1A2, 2C9, 2D6, 2C19, and 3A4). PDE2/PDE10-IN-1 is also inactive up to a concentration of 125 μg/mL in a bacterial mutagenicity assay[1]. **In Vivo:** The PK properties of PDE2/PDE10-IN-1 are studied in rats after 2.5 mg/kg i.v. and 10 mg/kg p.o. administration. After i.v. administration, a rapid clearance is observed ($t_{1/2}$=0.47 h), which is not expected based on the in vitro metabolic stability in rat liver microsomes (rLMs). Interestingly, PDE2/PDE10-IN-1 shows much slower clearance after p.o. administration ($t_{1/2}$=2.36 h), resulting in good bioavailability and a maximum plasma concentration (C_{max}) of 997 ng/mL. PDE2/PDE10-IN-1 is assessed for its potential to cross the blood–brain barrier in rats after 10 mg/kg s.c. administration. PDE2/PDE10-IN-1 shows good formulatability with 10 to 20% HPβCD at pH>3.5. The brain concentration for PDE2/PDE10-IN-1 after 1 h administration is in the range of 370-895 ng/g with high brain free fractions and brain/plasma ratios. More specifically, PDE2/PDE10-IN-1, which is orally bioavailable, occupies PDE2 with an ED_{50} of 21 mg/kg [1].

PROTOCOL (Extracted from published papers and Only for reference)

Animal Administration: [1]Rats[1]

Male Sprague-Dawley rats are fed with PDE2/PDE10-IN-1 (i.v., 2.5 mg/kg; p.o., 10 mg/kg). After administration, the clearance is observed.

References:

[1]. Rombouts FJ, et al. Pyrido[4,3-e][1,2,4]triazolo[4,3-a]pyrazines as Selective, Brain Penetrant Phosphodiesterase 2 (PDE2) Inhibitors. ACS Med Chem Lett. 2015 Jan 15;6(3):282-6.

CAIndexNames:

Pyrido[4,3-e][1,2,4]triazolo[4,3-a]pyrazine, 1-(2-chlorophenyl)-4-methyl-

SMILES:

CC1=NC2=C(C=NC=C2)N3C1=NN=C3C4=CC=CC=C4Cl

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA