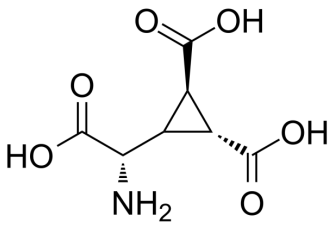
DCG-IV

Cat. No.:	HY-101335
CAS No.:	147782-19-2
Molecular Formula:	$C_7H_9NO_6$
Molecular Weight:	203.15
Target:	mGluR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	DCG-IV is a potent agonist of group II mGluRs with EC_{50}s of 0.35 and 0.09 μM for mGlu2R and mGlu3R, reapectively. DCG-IV is also a competitive antagonist at group I (IC_{50}: mGlu1R/5R=389/630 μM) and III receptors (IC_{50}: mGlu4R/6R/7R/8R= 22.5/39.6/40.1/32 μM). DCG-IV has anticonvulsive and neuroprotective effects[1][2].

IC_{50} & Target				
	mGluR2R 0.35 μM (EC50)	mGluR3R 0.09 μM (EC50)	mGluR1R 389 μM (IC_{50})	mGluR5 630 μM (IC_{50})
	mGluR4R 22.5 μM (IC_{50})	mGluR6 39.6 μM (IC_{50})	mGluR7 40.1 μM (IC_{50})	mGluR8 32 μM (IC_{50})

In Vitro

DCG-IV is also an NMDA receptor agonist in the rat cortical slice[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

DCG-IV (1-10 mg/kg; i.p.) depresses the phencyclidine (PCP)-induced hyperlocomotion[4].

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Animal Model:	Male ICR mice weighing about 40 g (PCP-induced locomotor activity)[4]
Dosage:	10, 5, or 1 mg/kg
Administration:	I.p.
Result:	Reduced spontaneous activities of the animals at 10 or 5 mg/kg.

REFERENCES

[1]. Brabet I, et al. Comparative effect of L-CCG-I, DCG-IV and gamma-carboxy-L-glutamate on all clonedmetabotropic glutamate receptor subtypes. Neuropharmacology. 1998 Aug;37(8):1043-51.

[2]. Bertrand HO, et al. Common and selective molecular determinants involved in metabotopic glutamate receptoragonist activity. J Med Chem. 2002 Jul 18;45(15):3171-83.

[3]. Uyama Y, et al. DCG-IV, a potent metabotropic glutamate receptor agonist, as an NMDA receptor agonist in the rat cortical slice. Brain Res. 1997 Mar 28;752(1-2):327-30.

[4]. Tomita N, et al. The effects of DCG-IV and L-CCG-1 upon phencyclidine (PCP)-induced locomotion and behavioral changes in mice. Ann N Y Acad Sci. 2000 Sep;914:284-91.

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