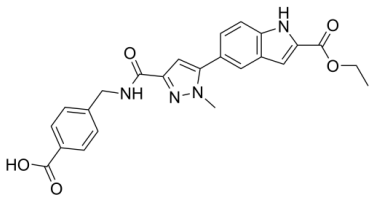
Data Sheet

Product Name:	BI-4394
Cat. No.:	CS-0083962
CAS No.:	1222173-37-6
Molecular Formula:	$C_{24}H_{22}N_4O_5$
Molecular Weight:	446.46
Target:	MMP
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 100 mg/mL (223.98 mM; ultrasonic and warming and heat to 60°C)



BIOLOGICAL ACTIVITY:

BI-4394 (MMP13-IN-3) is a potent, selective, and orally active **MMP-13** inhibitor (**IC_{50}**=1 nM[1]) for the potential treatment of osteoarthritis[2]. BI-4394 is >1000 selective over other MMPs[1]. **In Vitro:**BI-4394 (Compound 15) is potent in a full-length MMP-13 collagen degradation assay (11 nM) and is able to inhibit degradation of bovine nasal cartilage with an IC_{50} of 31 nM. BI-4394 inhibits MMP-2, MMP-9, MMP-10 and MMP-14 with IC_{50}s of 18, 8.9, 16 and 8.3 μM, respectively[1]. **In Vivo:**When dosed orally at 10 mg/kg or i.v. 1 mg/kg, BI-4394 (Compound 15) reaches micromolar plasma levels (AUC=1109±64 nM h/mL), displays modest clearance (CL=34 mL/min/kg), and shows acceptable bioavailability (39%). The V_{ss} is quite low at 0.26 mL/mi/kg rat pharmacokinetic profile. BI-4394 has short terminal elimination half-life ($t_{1/2}$=0.47 h for rat (1 mg/kg, i.v.) and rat (10 mg/kg, orally), respectively)[1].

References:

[1]. Taylor SJ, et al. Fragment-based discovery of indole inhibitors of matrix metalloproteinase-13. J Med Chem. 2011 Dec 8;54(23):8174-87.

[2]. Ruminski PG, et al. Discovery of N-(4-Fluoro-3-methoxybenzyl)-6-(2-(((2S,5R)-5-(hydroxymethyl)-1,4-dioxan-2-yl)methyl)-2H-tetrazol-5-yl)-2-methylpyrimidine-4-carboxamide. A Highly Selective and Orally Bioavailable Matrix Metalloproteinase-13 Inhibitor for the Potential Treatment of Osteoarthritis. J Med Chem. 2016 Jan 14;59(1):313-27.

CAIndexNames:

1H-Indole-2-carboxylic acid, 5-[3-[[[(4-carboxyphenyl)methyl]amino]carbonyl]-1-methyl-1H-pyrazol-5-yl]-, 2-ethyl ester

SMILES:

O=C(C(N1)=CC2=C1C=CC(C3=CC(C(NCC4=CC=C(C(O)=O)C=C4)=O)=NN3C)=C2)OCC

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