Product Data Sheet

Product Name: ZK 93423 hydrochloride
Cat. No.: GC13922

Chemical Properties

Cas. No.	1216574-52-5		
Chemical Name	ethyl 6-(benzyloxy)-4-(methoxymethyl)-9H-pyrido[3,4-b]indole-3-carboxylate		
SMILES	CCOC(C1=NC=C2C(C3=C(N2)C=CC(OCC4=CC=CC=C4)=C3)=C1COC)=O		
Formula	$C_{23}H_{22}N_2O_4$.HCl	M.Wt	426.9
Solubility	<11.71mg/ml in DMSO	Storage	Desiccate at RT
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	ZK 93423 hydrochloride		

Background

IC50: 1 nM

ZK-93423 is an anxiolytic drug from the β-Carboline family, which is a nonbenzodiazepine GABAA receptor agonist. The GABAA receptor is an ligand-gated ion channel and ionotropic receptor.

In vitro: The full agonist ZK-93423 is not subtype selective and stimulates α1, α2, α3, and α5-subunit containing GABAA receptors equally [α1β32 (Ki = 4.1 nM), α2β32 (Ki = 4.2 nM), α3β32 (Ki = 6.0 nM), α5β32 (Ki = 4.5 nM), α6β32 (Ki >1000 nM)] [1]. ZK-93423 has also been used as a base to develop new and improved beta-carboline derivatives and help map the binding site of the GABAA receptor. In rats trained to discriminate PTZ from saline, the PTZ cue was antagonized by ZK 93423, which indicated ZK 93423 may exhibit anxiolytic quality [2].

In vivo: ZK 93423 showd to have anxiolytic properties on animal models of anxiety,

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including social interaction, vogel, geller serfter, 4-plate test and elevated plus-maze. The anxiogenic and anxiolytic actions are mediated by the BDZ binding sites [3].

Clinical trial: So far, no clinical study has been conducted.

References:

[1] Cox ED, Diaz-Arauzo H, Huang Q, Reddy MS, Ma C, Harris B, McKernan R, Skolnick P, Cook JM. Synthesis and evaluation of analogues of the partial agonist 6-(propyloxy)-4-(methoxymethyl)-beta-carboline-3-carboxylic acid ethyl ester (6-PBC) and the full agonist 6-(benzyloxy)-4-(methoxymethyl)-beta-carboline-3-carboxylic acid ethyl ester (Zk 93423) at wild type and recombinant GABAA receptors. J Med Chem. 1998 Jul 2;41(14):2537-52.
[2] Stephens DN, Shearman GT, Kehr W. Discriminative stimulus properties of beta-carbolines characterized as agonists and inverse agonists at central benzodiazepine receptors. Psychopharmacology (Berl). 1984;83(3):233-9.
[3] File SE, Baldwin HA. Effects of beta-carbolines in animal models of anxiety. Brain Res Bull. 1987 Sep;19(3):293-9.

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