Product Data Sheet

Product Name: A 350619 hydrochloride
Cat. No.: GC13555

Chemical Properties

Cas. No.	1217201-17-6		
Chemical Name	(1Z,2E)-3-(2-((4-chlorophenyl)thio)phenyl)-N-(4-(dimethylamino)butyl)acrylimidic acid hydrochloride		
SMILES	CN(CCCC/N=C(O)/C([H])=C([H])/C1=CC=CC=C1SC2=CC=C(Cl)C=C2)C.Cl		
Formula	$C_{21}H_{25}ClN_2OS.HCl$	M.Wt	425.41
Solubility	≥ 21.25mg/mL in DMSO	Storage	Store at -20°C
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	A 350619 hydrochloride		

Background

Km: 50 μM

Nitric oxide (NO) is a key mediator in many physiological processes and one of the key receptors through which NO exerts its effects is soluble guanylyl cyclase (GC). Guanylyl cyclase converts GTP to cyclic GMP that results in physiological processes such as smooth muscle relaxation, neurotransmission, platelet aggregation inhibition and immune response. A 350619 is a novel soluble guanylyl cyclase activator.

In vitro: A 350619 increased Vmax from 0.1 to 14.5 μmol/min/mg, and lowered Km from 300 to 50 μM. When A 350619 and YC-1 (another GC activator) were combined, a 156 fold increase in Vmax and a 5 fold decrease in Km were observed, indicating the modulation of the enzyme brought about by YC-1 and A 350619 are not additive, indicating a common binding site. Activation of soluble guanylyl cyclase by A 350619 was partially inhibited by ODQ, a specific inhibitor of soluble guanylyl cyclase by oxidation of the enzyme heme [1].

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In vivo: Consistent with its biochemical activity, in a conscious rat model, A 350619 (1 μmol/kg) alone induced penile erection. Activation of soluble guanylyl cyclase in cavernosum tissue as an alternate method of enhancing the effect of NO may provide a novel treatment of sexual dysfunction [2].

Clinical trial: Up to now, A 350619 is still in the preclinical development stage.

Reference:
[1] Miller LN, Nakane M, Hsieh GC, Chang R, Kolasa T, Moreland RB, Brioni JD. A 350619: a novel activator of soluble guanylyl cyclase. Life Sci. 2003 Jan 17;72(9):1015-25.

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