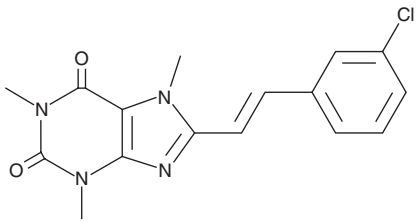
PRODUCT INFORMATION

8-(3-Chlorostyryl)caffeine

Item No. 29704

CAS Registry No.: 147700-11-6
Formal Name: 8-[(1E)-2-(3-chlorophenyl)ethenyl]-3,7-dihydro-1,3,7-trimethyl-1H-purine-2,6-dione
Synonym: CSC
MF: $C_{16}H_{15}ClN_4O_2$
FW: 330.8
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

8-(3-Chlorostyryl)caffeine (CSC) is supplied as a solid. A stock solution may be made by dissolving the CSC in the solvent of choice, which should be purged with an inert gas. CSC is soluble in organic solvents such as methanol and DMSO. CSC is soluble in DMSO at a concentration of approximately 25 mM.

Description

CSC is an adenosine A_2 receptor antagonist (K_i = 54 nM).[1] It is selective for adenosine A_2 over A_1 receptors (K_i = 28 µM). CSC reverses locomotor depression induced by the adenosine A_{2A} agonist APEC in mice (ED_{50} = 16 µg/kg, i.p.). It increases locomotion in mice when administered at a dose of 5 mg/kg. CSC (5 mg/kg) reverses the shortening of the rotational motor response and increases in striatal adenosine A_2 receptor levels induced by L-DOPA (Item No. 13248) in a rat model of Parkinson's disease induced by 6-OHDA (Item No. 25330).[2] It also inhibits monoamine oxidase B (MAO-B; K_i = 100 nM) and reduces MAO-B activity in brain mitochondrial preparations from wild-type and $A_{2A}^{-/-}$ mice.[3]

References

1. Jacobson, K.A., Nikodijević, O., Padgett, W.L., *et al.* 8-(3-Chlorostyryl)caffeine (CSC) is a selective A_2-adenosine antagonist in vitro and in vivo. *FEBS Lett.* **323(1-2)**, 141-144 (1993).
2. Song, L., Kong, M., Ma, Y., *et al.* Inhibitory effect of 8-(3-chlorostryryl) caffeine on levodopa-induced motor fluctuation is associated with intracellular signaling pathway in 6-OHDA-lesioned rats. *Brain Res.* **1276**, 171-179 (2009).
3. Chen, J.-F., Steyn, S., Staal, R., *et al.* 8-(3-Chlorostyryl)caffeine may attenuate MPTP neurotoxicity through dual actions of monoamine oxidase inhibition and A_{2A} receptor antagonism. *J. Biol. Chem.* **277(39)**, 36040-36044 (2002).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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