

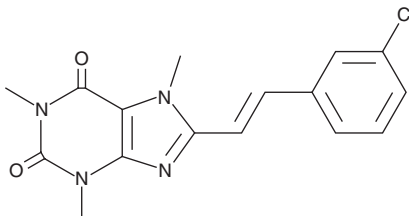
# PRODUCT INFORMATION



## 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<sub>16</sub>H<sub>15</sub>ClN<sub>4</sub>O<sub>2</sub>  
**FW:** 330.8  
**Purity:** ≥98%  
**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 the organic solvent DMSO at a concentration of approximately 25 mM.

### Description

CSC is an adenosine A<sub>2</sub> receptor antagonist (K<sub>i</sub> = 54 nM).<sup>1</sup> It is selective for adenosine A<sub>2</sub> over A<sub>1</sub> receptors (K<sub>i</sub> = 28 μM). CSC reverses locomotor depression induced by the adenosine A<sub>2A</sub> agonist APEC in mice (ED<sub>50</sub> = 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<sub>2</sub> receptor levels induced by L-DOPA (Item No. 13248) in a rat model of Parkinson's disease induced by 6-OHDA (Item No. 25330).<sup>2</sup> It also inhibits monoamine oxidase B (MAO-B; K<sub>i</sub> = 100 nM) and reduces MAO-B activity in brain mitochondrial preparations from wild-type and A<sub>2A</sub><sup>-/-</sup> mice.<sup>3</sup>

### References

1. Jacobson, K.A., Nikodijević, O., Padgett, W.L., *et al.* 8-(3-Chlorostyryl)caffeine (CSC) is a selective A<sub>2</sub>-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-chlorostyryl) 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<sub>2A</sub> 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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