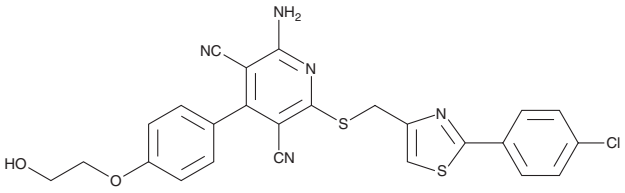
PRODUCT INFORMATION

Capadenoson

Item No. 28422

CAS Registry No.:	544417-40-5
Formal Name:	2-amino-6-[[[2-(4-chlorophenyl)-4-thiazolyl]methyl]thio]-4-[4-(2-hydroxyethoxy)phenyl]-3,5-pyridinedicarbonitrile
Synonym:	BAY 68-4986
MF:	$C_{25}H_{18}ClN_5O_2S_2$
FW:	520.0
Purity:	≥98%
UV/Vis.:	λ_{max}: 295, 346 nm
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

Capadenoson is supplied as a solid. A stock solution may be made by dissolving the capadenoson in the solvent of choice, which should be purged with an inert gas. Capadenoson is soluble in DMSO.

Description

Capadenoson is an orally bioavailable, non-nucleoside adenosine (A) receptor partial agonist.[1,2] It binds selectively to human A_1 and A_{2B} (EC_{50}s = 0.66 and 1.1 nM, respectively) over A_{2A} and A_3 receptors (EC_{50}s = 1,413 and 240 nM, respectively) expressed in CHO cells.[1] Capadenoson (0.6 µM) decreases electrical field-stimulated norepinephrine (Item No. 16673) release from isolated perfused hearts from spontaneously hypertensive rats (SHR) but not from control rats.[3] It does not affect baseline heart rate but protects against stress-induced increases in heart rate in SHR but not control rats when administered at a dose of 0.15 mg/kg for 5 days prior to stress induction. Capadenoson (0.1 mg/kg) decreases cardiac infarct size from 28.7 to 22% in a mouse model of ischemia induced by left anterior descending artery (LAD) occlusion.[2] Capadenoson (7.5 mg twice per day) also increases the left ventricular ejection fraction (LVEF) in a dog model of microembolization-induced heart failure.[4]

References

1. Baltos, J.-A., Vecchio, E.A., Harris, M.A., *et al.* Capadenoson, a clinically trialed partial adenosine A_1 receptor agonist, can stimulate adenosine A_{2B} receptor biased agonism. *Biochem. Pharmacol.* **135,** 79-89 (2017).
2. Meibom, D., Albrecht-Küpper, B., Diedrichs, N., *et al.* Neladenoson bialanate hydrochloride: A prodrug of a partial adenosine A_1 receptor agonist for the chronic treatment of heart diseases. *ChemMedChem* **12(10),** 728-737 (2017).
3. Bott-Flugel, L., Bernshausen, A., Schneider, H., *et al.* Selective attenuation of norepinephrine release and stress-induced heart rate increase by partial adenosine A_1 agonism. *PLoS One* **6(3),** e18048 (2011).
4. Sabbah, H.N., Gupta, R.C., Kohli, S., *et al.* Chronic therapy with a partial adenosine A1-receptor agonist improves left ventricular function and remodeling in dogs with advanced heart failure. *Circ. Heart Fail.* **6(3),** 563-561 (2013).

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