

Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@m2stage.hellobio.com



DATASHEET

Caffeine

Product overview

Name	Caffeine
Cat No	HB2846
Biological action	Antagonist
Description	Non-selective, competitive adenosine receptor antagonist / PDE inhibitor

Biological Data

Biological description	Non-selective and competitive adenosine receptor antagonist (K_i values are 27-30 and 50 μM at A_2 and A_1 receptors respectively). Improves attention and memory. Also inhibits phosphodiesterase. Shows potential protective actions against dementia and age-related memory decline and anti-cancer actions.
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Solubility & Handling

Storage instructions	-20°C
Solubility overview	Soluble in water (100 mM), and in DMSO (50 mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	1,3,7-Trimethylxanthine
Molecular Weight	194.19
Chemical structure	The chemical structure of caffeine is shown within a light gray box. It consists of a fused pyrimidine and imidazole ring system with three methyl groups attached to the nitrogen atoms at positions 1, 3, and 7.
Molecular Formula	C ₈ H ₁₀ N ₄ O ₂
CAS Number	58-08-2
PubChem identifier	2519
SMILES	O=C1C2=C(N=CN2C)N(C)C(N1C)=O
InChiKey	RYYYVLZVUVIJVGH-UHFFFAOYSA-N