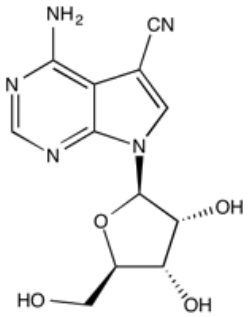
Catalog # 10-2750
Toyocamycin

CAS# 606-58-6

7-Deaza-7-cyanoadenosine; 4-Amino-7-β-D-ribofuranosyl-7*H*-pyrrolo[2,3-*d*]pyrimidine-5-carbonitrile

NSC 63701; NSC 99843; Neuro 000027; Unamycin B; Vengicide

Lot # X106129



An adenosine analog which inhibits ribozyme self cleavage in mammalian cells, EC_{50} = 0.4 µM (for expression of a luciferase reporter).[1] A potent inhibitor of ER stress-induced XBP1 mRNA splicing.[2] It suppresses thapsigargin-, tunicamycin- and 2-deoxyglucose-induced XBP1 mRNA splicing in HeLa cells without affecting ATF6 and PERK activation. Although unable to inhibit IRE1α phosphorylation, it prevented IRE1α-induced XBP1 mRNA cleavage *in vitro*. It inhibits not only ER stress-induced but also constitutive activation of XBP1 expression in multiple myeloma cell lines as well as in primary patient samples.[2] Displays synergistic effects with bortezomib. Inhibits unfolded protein response and induces apoptosis in pancreatic cancer cells.[3]

1) Yen *et al*. (2006), *Identification of inhibitors of ribozyme self-cleavage in mammalian cells via high-throughput screening of chemical libraries*; RNA, **12** 797
2) Ri *et al*. (2012), *Identification of Toyocamycin, an agent cytotoxic for multiple myeloma cells, as a potent inhibitor of ER stress-induced XBP1 mRNA splicing*; Blood Cancer J., **2** e79
3) Chien *et al*. (2014), *Selective inhibition of unfolded protein response induces apoptosis in pancreatic cancer cells*; Oncotarget, **5** 4881

PHYSICAL DATA

Molecular Weight:	291.26
Molecular Formula:	$C_{12}H_{13}N_5O_4$
Purity:	97% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 25 mg/ml), moderately water soluble
Physical Description:	White or off-white solid
Storage and Stability:	Store as supplied, desiccated at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462

www.focusbiomolecules.com