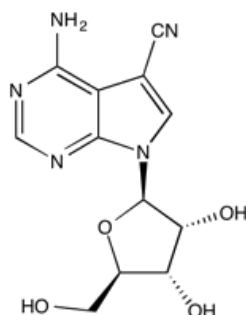


**Catalog # 10-2750**

**Toyocamycin**

CAS# 606-58-6

7-Deaza-7-cyanoadenosine; 4-Amino-7-β-D-ribofuranosyl-7H-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,  $EC_{50} = 0.4 \mu\text{M}$  (for expression of a luciferase reporter)<sup>1</sup>. A potent inhibitor of ER stress-induced XBP1 mRNA splicing<sup>2</sup>. It suppresses thapsigargin-, tunicamycin- and 2-deoxyglucose-induced XBP1 mRNA splicing in HeLa cells without affecting ATF6 and PERK activation. Although unable to inhibit IRE1 $\alpha$  phosphorylation, it prevented IRE1 $\alpha$ -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<sup>2</sup>. Displays synergistic effects with bortezomib. Inhibits unfolded protein response and induces apoptosis in pancreatic cancer cells<sup>3</sup>.

- 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 <sub>12</sub> H <sub>13</sub> N <sub>5</sub> O <sub>4</sub>
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.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**