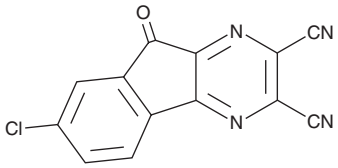
PRODUCT INFORMATION

HBX 41108

Item No. 23759

CAS Registry No.:	924296-39-9
Formal Name:	7-chloro-9-oxo-9H-indeno[1,2-b] pyrazine-2,3-dicarbonitrile
MF:	$C_{13}H_3ClN_4O$
FW:	266.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 312 nm
Supplied as:	A crystalline 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

HBX 41108 is supplied as a crystalline solid. A stock solution may be made by dissolving the HBX 41108 in the solvent of choice. HBX 41108 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of HBX 41108 in these solvents is approximately 33 and 25 mg/ml, respectively.

HBX 41108 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, HBX 41108 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. HBX 41108 has a solubility of approximately 0.2 mg/ml in a 1:40 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

HBX 41108 is an uncompetitive, reversible inhibitor of ubiquitin-specific protease 7 (USP7) activity (IC_{50} = 424 nM).[1] It dose-dependently inhibits USP7-mediated p53 deubiquitination in a cell-free assay, with an IC_{50} value of approximately 0.8 µM, as well as in HEK293 cells. It is selective for USP7 over a panel of proteases including aspartic, serine, and metalloproteases (IC_{50}s = >10 µM), several cysteine proteases (IC_{50}s = >1 and >10 µM), and the deubiquitinating enzymes UCH-L1 (IC_{50} = >1 µM) and SENP1 (IC_{50} = >10 µM). HBX 41108 increases the levels of p53 and p21/WAF1, a p53 target gene. It also dose-dependently inhibits proliferation of HCT116 cells with an IC_{50} value of approximately 1 µM and induces apoptosis.

Reference

1. Colland, F., Formstecher, E., Jacq, X., *et al.* Small-molecule inhibitor of USP7/HAUSP ubiquitin protease stabilizes and activates p53 in cells. *Mol. Cancer Ther.* **8(8)**, 2286-2295 (2009).

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