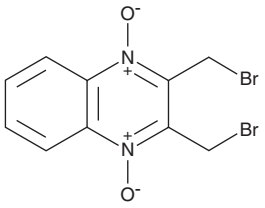
PRODUCT INFORMATION

Conoidin A

Item No. 15605

CAS Registry No.:	18080-67-6
Formal Name:	2,3-*bis*(bromomethyl)-quinoxaline 1,4-dioxide
MF:	$C_{10}H_8Br_2N_2O_2$
FW:	348.0
Purity:	≥98%
UV/Vis.:	λ_{max}: 240, 278, 391 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Conoidin A is supplied as a crystalline solid. A stock solution may be made by dissolving the conoidin A in the solvent of choice, which should be purged with an inert gas. Conoidin A is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of conoidin A in these solvents is approximately 20 and 25 mg/ml, respectively.

Conoidin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, conoidin A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Conoidin A has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Peroxiredoxins are a widely conserved family of enzymes that function in antioxidant defense and act in redox signaling pathways. Increased expression of human peroxiredoxin is associated with cancer, cardiovascular dysfunction, and neurodegeneration. Conoidin A inactivates peroxiredoxins by covalently binding to the catalytic cysteine on the enzyme.[1,2] It has been shown to inhibit peroxiredoxin II (IC_{50} = 23 µM) in the parasite *T. gondii* and peroxiredoxin I in the hookworm *A. ceylanicum*.[1-3] At 5 µM, conoidin A can also inhibit the glucose oxidase-mediated hyperoxidation of mammalian peroxiredoxin I and II, but not peroxiredoxin III.[1]

References

1. Haraldsen, J.D., Liu, G., Botting, C.H., *et al.* Identification of conoidin A as a covalent inhibitor of peroxiredoxin II. *Org. Biomol. Chem.* **7**, 3040-3048 (2009).
2. Nguyen, J.B., Pool, C.D., Wong, C.Y., *et al.* Peroxiredoxin-1 from the human hookworm *Ancylostoma ceylanicum* forms a stable oxidized decamer and is covalently inhibited by conoidin A. *Chem. Biol.* **20(8)**, 991-1001 (2013).
3. Liu, G., Botting, C.H., Evans, K.M., *et al.* Optimisation of conoidin A, a peroxiredoxin inhibitor. *ChemMedChem* **5(1)**, 41-45 (2010).

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