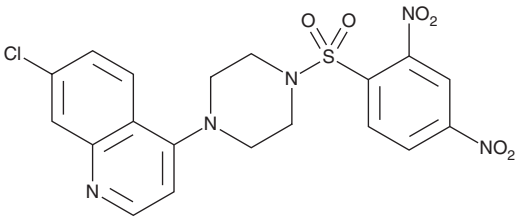
PRODUCT INFORMATION

VR23

Item No. 19133

CAS Registry No.:	1624602-30-7
Formal Name:	7-chloro-4-[4-[(2,4-dinitrophenyl) sulfonyl]-1-piperazinyl]-quinoline
MF:	$C_{19}H_{16}ClN_5O_6S$
FW:	477.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 225, 307 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

VR23 is supplied as a crystalline solid. A stock solution may be made by dissolving the VR23 in the solvent of choice, which should be purged with an inert gas. VR23 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of VR23 in these solvents is approximately 0.5 and 2 mg/ml, respectively.

VR23 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, VR23 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. VR23 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

VR23 is a chloroquine (Item No. 14194) derivative that functions as a proteasome inhibitor (IC_{50}s = 1 nM, 50-100 nM, and 3 µM for trypsin-like, chymotrypsin-like, and caspase-like proteasomes, respectively).[1] It also deregulates the activity of cyclin E and other centrosomal proteins, resulting in the induction of multiple centrosome amplification, abnormal spindle formation, uneven cytokinesis, irreversible mitotic arrest, and eventually apoptosis that is specific to cancer cells.[1] In combination with the chymotrypsin-like proteasome inhibitor bortezomib (Item No. 10008822), VR23 can produce a synergistic effect in killing multiple myeloma cells, including those that are resistant to bortezomib.[1]

Reference

1. Pundir, S., Vu, H.-Y., Solomon, V.R., *et al.* VR23: A quinoline-sulfonyl hybrid proteasome inhibitor that selectively kills cancer *via* cyclin E-mediated centrosome amplification. *Cancer Res.* **75(19)**, 4164-4175 (2015).

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