

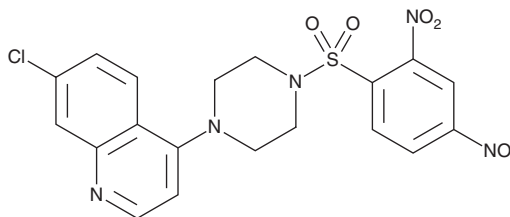
# PRODUCT INFORMATION



**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<sub>19</sub>H<sub>16</sub>ClN<sub>5</sub>O<sub>6</sub>S  
**FW:** 477.9  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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<sub>50</sub>s = 1 nM, 50-100 nM, and 3 μM for trypsin-like, chymotrypsin-like, and caspase-like proteasomes, respectively).<sup>1</sup> 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.<sup>1</sup> 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.<sup>1</sup>

## 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).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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## CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)