

# PRODUCT INFORMATION

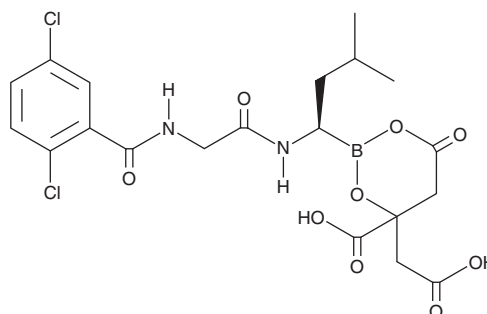


## MLN9708

Item No. 18386

**CAS Registry No.:** 1201902-80-8  
**Formal Name:** 4-carboxy-2-[(1R)-1-[[2-[(2,5-dichlorobenzoyl)amino]acetyl]amino]-3-methylbutyl]-6-oxo-1,3,2-dioxaborinane-4-acetic acid

**Synonym:** Ixazomib Citrate  
**MF:** C<sub>20</sub>H<sub>23</sub>BCl<sub>2</sub>N<sub>2</sub>O<sub>9</sub>  
**FW:** 517.1  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 282 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

MLN9708 is supplied as a crystalline solid. A stock solution may be made by dissolving the MLN9708 in the solvent of choice, which should be purged with an inert gas. MLN9708 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of MLN9708 in these solvents is approximately 2 and 5 mg/ml, respectively.

MLN9708 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MLN9708 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. MLN9708 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

MLN9708 is a prodrug form of the proteasome inhibitor MLN2238 (Item No. 18385).<sup>1,2</sup> It is converted to MLN2238 via hydrolysis in the plasma.<sup>1</sup> MLN9708 inhibits the 20S proteasome (IC<sub>50</sub> = 8.4 nM for the human enzyme) and binds to caseinolytic protease P (K<sub>d</sub> = 7,300 nM for the *S. aureus* enzyme).<sup>3,4</sup> It inhibits the proliferation of RPMI-8226, U266B, and ARH-77 multiple myeloma cells with IC<sub>50</sub> values of 49.4, 67, and 43.5 nM, respectively.<sup>3</sup>

### References

1. Kupperman, E., Lee, E.C., Cao, Y., *et al.* Evaluation of the proteasome inhibitor MLN9708 in preclinical models of human cancer. *Cancer Res.* **70(5)**, 1970-1980 (2010).
2. Garcia-Gomez, A., Quwaider, D., Canavese, M., *et al.* Preclinical activity of the oral proteasome inhibitor MLN9708 in Myeloma bone disease. *Clin. Cancer Res.* **20(6)**, 1542-1554 (2014).
3. Lei, M., Feng, H., Bai, E., *et al.* Discovery of a novel dipeptidyl boronic acid proteasome inhibitor for the treatment of multiple myeloma and triple-negative breast cancer. *Org. Biomol. Chem.* **17(3)**, 683-691 (2019).
4. Ju, Y., He, L., Zhou, Y., *et al.* Discovery of novel peptidomimetic boronate ClpP inhibitors with noncanonical enzyme mechanism as potent virulence blockers *in vitro* and *in vivo*. *J. Med. Chem.* **63(6)**, 3104-3119 (2020).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/04/2022

#### 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