


#2194	MG-132	Store at -20C	1 mg	 <b>Cell Signaling</b> TECHNOLOGY®	<b>Orders:</b> 877-616-CELL (2355) orders@cellsignal.com
					<b>Support:</b> 877-678-TECH (8324)
					<b>Web:</b> info@cellsignal.com cellsignal.com
3 Trask Lane   Danvers   Massachusetts   01923   USA					

**For Research Use Only. Not for Use in Diagnostic Procedures.**

## Background

MG-132 is a potent proteasome and calpain inhibitor. Research studies have shown that MG-132 prevents degradation of the proteasome substrates SucLLVY-MCA and ZLLL-MCA with an  $IC_{50}$  of 850 nM and 100 nM, respectively, as well as inhibits casein-degrading activity of m-calpain with an  $IC_{50}$  of 1.25  $\mu$ M (1). Investigators have demonstrated that MG-132 inhibits TNF- $\alpha$ -induced NF- $\kappa$ B activation and IL-8 release in A549 cells (2). Proteasome inhibition with MG-132 prevents degradation of short-lived proteins, which correlates with increased expression of HSP and ER chaperone proteins (3). MG-132 induces apoptosis in Hep G2 cells in a time- and dose-dependent manner (4). Proteasome inhibitors like MG-132 are important research tools for studying cellular degradation of the ubiquitin-proteasome pathway.

## Molecular Formula

$C_{26}H_{41}N_3O_5$

## Molecular Weight

475.6 g/mol

## Purity

>98%

## CAS

133407-82-6

## Solubility

Soluble in DMSO, DMF and EtOH at 45mg/ml.

## Storage

Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 1 month to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

## Directions for Use:

MG-132 is supplied as a lyophilized powder. For a 10 mM stock, reconstitute the 1 mg in 210.3  $\mu$ l DMSO. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 5-50  $\mu$ M for 1-24 hours. Soluble in DMSO or EtOH.

## Background References

1. Tsubuki, S. et al. (1996) *J Biochem* 119, 572-6.
2. Fiedler, M.A. et al. (1998) *Am J Respir Cell Mol Biol* 19, 259-68.
3. Bush, K.T. et al. (1997) *J Biol Chem* 272, 9086-92.
4. Emanuele, S. et al. (2002) *Int J Oncol* 21, 857-65.

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.  
 All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with

other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.