

Revision 2

Store at RT

#90543

Lenalidomide

50 mg

**Cell Signaling**
TECHNOLOGY®**Orders:** 877-616-CELL (2355)
orders@cellsignal.com**Support:** 877-678-TECH (8324)**Web:** info@cellsignal.com
www.cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not For Use In Diagnostic Procedures.

Background

The immunomodulatory drug Lenalidomide is one of a number of chemically modified analogs of the angiogenesis inhibitor, Thalidomide. Lenalidomide can act as an anti-tumor agent by suppressing angiogenesis and activating the immune system (1). Binding of Lenalidomide to Cereblon (CRBN), a substrate receptor for the CRL4 E3 ubiquitin ligase, causes selective ubiquitination and degradation of the zinc finger transcription factors Ikaros and Aiolos (2). A similar mechanism leads to the ubiquitination and targeted degradation of casein kinase 1 α (CK1 α) (3). Lenalidomide also downregulates SALL4, a zinc finger transcription factor that has been implicated in some human malformation syndromes, including Duane-radial ray syndrome (Okhiro syndrome) and Acro-renal-ocular syndrome (4). Lenalidomide (and other Thalidomide derivatives) can effectively treat multiple myeloma, mantle cell lymphoma, and non-Hodgkin follicular lymphoma (5-7) and can effectively induce remission in patients with myelodysplastic syndrome, either with or without chromosome 5q deletion (8).

Molecular Formula

 $C_{13}H_{13}N_3O_3$

Molecular Weight

259.2 g/mol

Purity

>98%

CAS

191732-72-6

Solubility

Soluble in DMSO at 30 mg/mL.

Storage

Store lyophilized at room temperature, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use:

Lenalidomide is supplied as a lyophilized powder. For a 15 mM stock, reconstitute 5 mg of powder in 1.29 mL of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Caution: Teratogenic. Pregnant women should avoid using compound.

Background References

1. Bartlett, J.B. et al. (2004) *Nat Rev Cancer* 4, 314-22.
2. Krönke, J. et al. (2014) *Oncoimmunology* 3, e941742.
3. Petzold, G. et al. (2016) *Nature* 532, 127-30.
4. Donovan, K.A. et al. (2018) *Elife* 7, e38430. doi: 10.7554/eLife.38430.
5. Weber, D.M. et al. (2007) *N Engl J Med* 357, 2133-42.
6. Habermann, T.M. et al. (2009) *Br J Haematol* 145, 344-9.
7. Flowers, C.R. et al. (2020) *Blood* 135, 2133-2136.
8. Park, I. et al. (2021) *Cancers (Basel)* 13, 5084. doi: 10.3390/cancers13205084.

APPLICATIONS KEY

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:

hspc: Hawk rabbit All: all species expected

<https://www.cellsignal.com/datasheet.jsp?productId=90543&images=0&protocol=0>

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](https://www.cellsignal.com/trademarks) for more information.

#90543

Lenalidomide



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.

CSTLT_86_20200512

Orders: 877-616-CELL (2355) • orders@cellsignal.com • Support: 877-678-TECH (8324) • info@cellsignal.com • Web: www.cellsignal.com