Revision 1

Store at -20C

#27888

Phospho-Ezh2 (Thr311) Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	98	Rabbit	#Q15910	2146

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-Ezh2 (Thr311) Antibody recognizes endogenous levels of Ezh2 protein only when phosphorylated at Thr311.

Species predicted to react based on 100% sequence homology

Mouse, Rat, Chicken

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr311 of human EZH2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The polycomb group (PcG) proteins are involved in maintaining the silenced state of several developmentally regulated genes and contribute to the maintenance of cell identity, cell cycle regulation, and oncogenesis (1,2). Enhancer of zeste homolog 2 (Ezh2), a member of this large protein family, contains four conserved regions including domain I, domain II, and a cysteine-rich amino acid stretch that precedes the carboxy-terminal SET domain (3). The SET domain has been linked with histone methyltransferase (HMTase) activity. Moreover, mammalian Ezh2 is a member of a histone deacetylase complex that functions in gene silencing, acting at the level of chromatin structure (4). Ezh2 complexes methylate histone H3 at Lys9 and 27 *in vitro*, which is thought to be involved in targeting transcriptional regulators to specific loci (5). Ezh2 is deregulated in various tumor types, and its role, both as a primary effector and as a mediator of tumorigenesis, has become a subject of increased interest (6).
Ezh2 is phosphorylated on Thr311 by AMP-activated protein kinase (AMPK) in response to sustained energy starvation (7). Phosphorylation of Thr311 disrupts the interaction between Ezh2 and SUZ12, leading to attenuation of Ezh2 histone methyltransferase activity and suppression of oncogenic function (7). In addition, phosphorylation of Ezh2 on Thr311 correlates with better survival in ovarian and breast cancer patients (7).

Background References

1. Sellers, W.R. and Loda, M. (2002) *Cancer Cell* 2, 349-50.
2. Visser, H.P. et al. (2001) *Br J Haematol* 112, 950-8.
3. Chen, H. et al. (1996) *Genomics* 38, 30-7.
4. Tonini, T. et al. (2004) *Oncogene* 23, 4930-7.
5. Müller, J. et al. (2002) *Cell* 111, 197-208.
6. Kleer, C.G. et al. (2003) *Proc Natl Acad Sci U S A* 100, 11606-11.
7. Wan, L. et al. (2018) *Mol Cell* 69, 279-291.e5.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

All other trademarks are the property of their respective owners. Visit 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.