

ORF1p (D3W90) Rabbit mAb

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: W, W-S	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 42	Source/Isotype: Rabbit IgG	UniProt ID: #Q9UN81	Entrez-Gene Id: 4029
--------------------------------	-------------------------	-----------------------------------	------------------------	--------------------------------------	-------------------------------	--------------------------------

Product Usage Information**Application**

Western Blotting
Simple Western™

Dilution

1:1000
1:10 - 1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

ORF1p (D3W90) Rabbit mAb recognizes endogenous levels of total ORF1p protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly162 of human ORF1p protein.

Background

LINE-1, also known as L1, is a non-long terminal repeat (non-LTR) retrotransposon with hundreds of thousands of copies in the human genome (1, 2). Like all non-LTRs, L1 replicates by target-primed reverse transcription (TPRT) (3). The L1 retrotransposon encodes two proteins critical to this process: ORF1p and ORF2p. ORF2p contributes to endonuclease and reverse transcriptase activity, while ORF1p acts as a nucleic acid chaperone that binds RNA (4-8). Many types of cancers have been shown to have L1 insertions within tumor suppressor genes, disrupting their expression and contributing to tumorigenesis (9).

While normally silenced, ORF1p is expressed in many types of cancers (9-12). Recently, it has been found that ORF1p can become phosphorylated and that this event impacts its ability to promote retrotransposition. This creates a novel dynamic to which the host could actively affect L1 replication through various signaling cascades (13).

Background References

1. Kazazian, H.H. and Moran, J.V. (1998) *Nat Genet* 19, 19-24.
2. Malik, H.S. et al. (1999) *Mol Biol Evol* 16, 793-805.
3. Wilhelm, M. and Wilhelm, F.X. (2001) *Cell Mol Life Sci* 58, 1246-62.
4. Scott, A.F. et al. (1987) *Genomics* 1, 113-25.
5. Moran, J.V. et al. (1996) *Cell* 87, 917-27.
6. Feng, Q. et al. (1996) *Cell* 87, 905-16.
7. Martin, S.L. and Bushman, F.D. (2001) *Mol Cell Biol* 21, 467-75.
8. Kolosha, V.O. and Martin, S.L. (1997) *Proc Natl Acad Sci U S A* 94, 10155-60.
9. Lee, E. et al. (2012) *Science* 337, 967-71.
10. Rodić, N. et al. (2015) *Nat Med* 21, 1060-4.
11. Doucet-O'Hare, T.T. et al. (2015) *Proc Natl Acad Sci U S A* 112, E4894-900.
12. Chen, L. et al. (2012) *Breast Cancer Res Treat* 136, 129-42.
13. Rodić, N. et al. (2014) *Am J Pathol* 184, 1280-6.
14. Cook, P.R. et al. (2015) *Proc Natl Acad Sci U S A* 112, 4298-303.

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 **W-S:** Simple Western™

Cross-Reactivity Key

H: Human

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 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.