

Store at -20°C
#3078

Phospho-ROS1 (Tyr2274) 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:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	258, 110, 50-80	Rabbit	#P08922	6098

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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-ROS1 (Tyr2274) Antibody recognizes endogenous levels of ROS1 only when phosphorylated at Tyr2274. This antibody may cross-react with other unknown proteins.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr2274 of human ROS1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

ROS1, an orphan receptor tyrosine kinase of the insulin receptor family, was initially identified as a homolog of v-ros from the UR2 sarcoma virus (1). ROS1 consists of a large extracellular domain that is composed of six fibronectin repeats, a transmembrane domain, and a C-terminal kinase domain. Being an orphan receptor, the functions of ROS1 are not well known, though it has been shown to play an important role in differentiation of epididymal epithelium (2). The first oncogenic fusion of ROS1, FIG-ROS1, was initially identified by research studies in glioblastoma (3), and subsequent studies have found this fusion in cholangiocarcinoma (4), ovarian cancer (5), and non-small cell lung cancer (NSCLC) (6). Investigators have found additional oncogenic ROS1 fusion proteins in NSCLC (at a frequency of ~1.6%), where the ROS1 kinase domain is fused to the amino-terminal region of several different proteins, including CD74 and SLC34A2 (6-8). ROS1 fusion proteins activate the SHP-2 phosphatase, PI3K/Akt/mTOR, Erk, and Stat3 pathways (3,4,9). There are two autophosphorylation sites (Tyr2274, Tyr2334) downstream of the kinase domain of ROS1, either of which may serve as biomarkers of ROS1 kinase activity, including that of ROS1 fusion proteins (10).

Background References

1. Matsushime, H. et al. (1986) *Mol Cell Biol* 6, 3000-4.
2. Yeung, C.H. et al. (1999) *Biol Reprod* 61, 1062-9.
3. Charest, A. et al. (2003) *Genes Chromosomes Cancer* 37, 58-71.
4. Gu, T.L. et al. (2011) *PLoS One* 6, e15640.
5. Birch, A.H. et al. (2011) *PLoS One* 6, e28250.
6. Rimkunas, V.M. et al. (2012) *Clin Cancer Res* 18, 4449-57.
7. Rikova, K. et al. (2007) *Cell* 131, 1190-203.
8. Stumpfova, M. and Jänne, P.A. (2012) *Clin Cancer Res* 18, 4222-4.
9. Jun, H.J. et al. (2012) *Cancer Res* 72, 3764-74.
10. Zou, H.Y. et al. (2015) *Proc Natl Acad Sci U S A* 112, 3493-8.

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

WB: Western Blotting **IP:** Immunoprecipitation

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 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.