

#3359
Store at -20°C

Phospho-TORC1/CRTC1 (Ser151) Antibody



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	H	Transfected Only	82	Rabbit	#Q6UUV9	23373

Product Usage Information

Application

Western Blotting

Dilution

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-TORC1/CRTC1 (Ser151) Antibody recognizes transfected levels of TORC1 (CRTC1) protein when phosphorylated on Ser151.

Species predicted to react based on 100% sequence homology:

Mouse, Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to the sequence of human TORC1 (CRTC1) protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Glucose homeostasis is regulated by hormones and cellular energy status. Elevations of blood glucose during feeding stimulate insulin release from pancreatic β -cells through a glucose sensing pathway. Feeding also stimulates release of gut hormones such as glucagon-like peptide-1 (GLP-1), which further induces insulin release, inhibits glucagon release and promotes β -cell viability. CREB-dependent transcription likely plays a role in both glucose sensing and GLP-1 signaling (1). The protein CRTC2 (CREB-regulated transcription coactivator 2)/TORC2 (transducer of regulated CREB activity 2) functions as a CREB co-activator (2,3) and is implicated in mediating the effects of these two pathways (4). In quiescent cells, CRTC2/TORC2 is phosphorylated at Ser171 and becomes sequestered in the cytoplasm via an interaction with 14-3-3 proteins. Glucose and gut hormones lead to the dephosphorylation of CRTC2/TORC2 and its dissociation from 14-3-3 proteins. Dephosphorylated CRTC2/TORC2 enters the nucleus to promote CREB-dependent transcription. CRTC2/TORC2 plays a key role in the regulation of hepatic gluconeogenic gene transcription in response to hormonal and energy signals during fasting (5).

CRTC2/TORC2-related proteins CRTC1/TORC1 and CRTC3/TORC3 also act as CREB co-activators (2,3). CRTC1/TORC1, CRTC2/TORC2 and CRTC3/TORC3 associate with the HTLV Tax protein to promote Tax-dependent transcription of HTLV-1 long terminal repeats (6,7). CRTC1/TORC1 is highly phosphorylated at Ser151 in mouse hypothalamic cells under basal conditions (8). When these cells are exposed to cAMP or a calcium activator, CRTC1/TORC1 is dephosphorylated and translocates into the nucleus (8). CRTC1/TORC1 is essential for energy balance and fertility (8).

Background References

- Hinke, S.A. et al. (2004) *J Physiol* 558, 369-80.
- Conkright, M.D. et al. (2003) *Mol Cell* 12, 413-23.
- Iourgenko, V. et al. (2003) *Proc Natl Acad Sci U S A* 100, 12147-52.
- Screaton, R.A. et al. (2004) *Cell* 119, 61-74.
- Koo, S.H. et al. (2005) *Nature* 437, 1109-11.
- Koga, H. et al. (2004) *J Biol Chem* 279, 52978-83.
- Siu, Y.T. et al. (2006) *J Virol* 80, 7052-9.
- Altarejos, J.Y. et al. (2008) *Nat Med* 14, 1112-7.

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

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.