Revision 1

#69690 Store at -20C

HCFC1 Antibody (Amino-terminal Antigen)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	120, 130, 135, 160, 260	Rabbit	#P51610	3054

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

HCFC1 Antibody (Amino-terminal Antigen) recognizes endogenous levels of total HCFC1 protein. This antibody also recognizes amino-terminal fragments (HCFC1-N) resulting from O-GlcNAc transferase (OGT) cleavage.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro484 of human HCFC1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Host cell factor C1 (HCFC1) was first identified as the host cell factor for human herpes simplex virus infection. HCFC1 and the viral protein VP16 belong to a multi-protein complex that promotes transcription of viral immediate early genes (1). The relatively large HCFC1 protein contains 6 centrally located 26 amino acid repeats that can be O-GlcNAcylated and subjected to O-linked beta-N-acetylglucosamine transferase (OGT) cleavage (2-4). The resulting amino-terminal (HCFC1-N) and carboxy-terminal (HCFC1-C) fragments are non-covalently associated and play important roles in cell cycle regulation. The HCFC1-N peptide facilitates progression through the G1 phase of the cell cycle while HCFC1-C enables proper mitosis and cytokinesis during the M phase (5-7). As HCFC1 plays an important role in neurodevelopment, mutations in the corresponding gene are associated with neurodevelopmental disorders (e.g., intellectual disability) in humans (8).

Background References

1. Vogel, J.L. and Kristie, T.M. (2013) *Viruses* 5, 1272-91.
2. Daou, S. et al. (2011) *Proc Natl Acad Sci U S A* 108, 2747-52.
3. Capotosti, F. et al. (2011) *Cell* 144, 376-88.
4. Lazarus, M.B. et al. (2013) *Science* 342, 1235-9.
5. Julien, E. and Herr, W. (2003) *EMBO J* 22, 2360-9.
6. Julien, E. and Herr, W. (2004) *Mol Cell* 14, 713-25.
7. Zargar, Z. and Tyagi, S. (2012) *Transcription* 3, 187-92.
8. Jolly, L.A. et al. (2015) *Hum Mol Genet* 24, 3335-47.

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 nonfat dry milk, 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

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