Revision 1

#6255 Store at -20C

ACF1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H Mk	Endogenous	203	Rabbit	#Q9NRL2	11177

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

ACF1 Antibody recognizes endogenous levels of total ACF1 protein (isoforms 1 and 2).

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Met864 of human ACF1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The mammalian imitation SWI (ISWI) complexes are characterized by two ATPase subunits: Snf2h and Snf2l (1). Snf2h interacts with ATP-utilizing chromatin assembly and remodeling factor 1 (ACF1) to comprise the ACF chromatin-remodeling complex (1). ACF1 (BAZ1A) has distinct roles in development (2), regulation of chromatin structure (3), and DNA damage response (4,5). Different developmental stages dictate the expression of ACF1 in Drosophila, and alterations in ACF1 expression during Drosophila development leads to deviation from normal chromatin organization (2). ACF1 functions in heterochromatin formation during development and is involved in the initial establishment of diversified chromatin structures. *In vivo* studies demonstrate that heterochromatin protein 1 (HP1) binding to methylated lysine 9 of histone H3 is enhanced by the interaction of ACF1 with chromatin (6). Chromatin-remodeling factors are required during DNA damage in order to allow signaling molecules and damaging enzymes to access the site (4). Depletion of hACF1 increases apoptosis and vulnerability to radiation and compromises G2/M arrest activated in response to X-ray and UV exposure (4). Depletion of ACF1 also sensitizes cells to DNA double-stranded breaks (DSBs) and impairs DNA repair (5). Specifically, accumulation of Ku at DSBs sites may depend on the presence of ACF1 (5).

Background References

1. Saladi, S.V. and de la Serna, I.L. (2010) *Stem Cell Rev* 6, 62-73.
2. Chioda, M. et al. (2010) *Development* 137, 3513-22.
3. Ho, L. and Crabtree, G.R. (2010) *Nature* 463, 474-84.
4. Sánchez-Molina, S. et al. (2011) *Nucleic Acids Res* 39, 8445-56.
5. Lan, L. et al. (2010) *Mol Cell* 40, 976-87.
6. Eskeland, R. et al. (2007) *Mol Cell Biol* 27, 453-65.

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

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