Revision 10

BRF1/2 Antibody

#2119 Store at -20C

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	40 to 50, 62	Rabbit	#P47974, #Q07352	678, 677

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

This antibody detects endogenous levels of total BRF1 and BRF2 proteins.

Species predicted to react based on 100% sequence homology

Chicken, Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human BRF1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

ZFP36L1, also known as butyrate response factor-1 (BRF1), and ZFP36L2, also known as butyrate response factor-2 (BRF2), both belong to the TIS11 family of CCCH zinc-finger proteins (1). This family of proteins, which also includes tristetraprolin (TTP), bind to AU-rich elements (AREs) found in the 3'-untranslated regions of mRNAs and promote deadenylation and rapid degradation by the exosome (2,3). These proteins play a critical role in cell growth control by regulating the mRNA turnover of multiple cytokines, growth factors, and cell cycle regulators, including GM-CSF, TNFα, IL-2, IL-3, and IL-6 (4,5). Deregulated ARE-mRNA stability can contribute to both inflammation and oncogenic transformation (6-8). Insulin-induced stabilization of ARE-containing transcripts is mediated by Akt/PKB phosphorylation of ZFP36L1 at Ser92, which results in binding by 14-3-3 protein and inactivation of ZFP36L1 (9). ZFP36L1 and L2 have also been shown to promote cell quiescence in developing B lymphocytes, promoting VDJ recombination (10).

Background References

1. Varnum, B.C. et al. (1991) *Mol. Cell. Biol.* 11, 1754-1758.
2. Stoecklin, G. et al. (2002) *EMBO J.* 21, 4709-4718.
3. Lykke-Andersen, J. and Wagner, E. (2005) *Genes Dev.* 19, 351-361.
4. Stoecklin, G. et al. (2000) *Mol. Cell. Biol.* 20, 3753-3763.
5. Stoecklin, G. et al. (2001) *RNA* 7, 1578-1588.
6. Schuler, G.D. and Cole, M.D. (1988) *Cell* 55, 1115-1122.
7. Nair, A.P. et al. (1994) *Nature* 369, 239-242.
8. Carballo, E. et al. (1998) *Science* 281, 1001-1005.
9. Schmidlin, M. et al. (2004) *EMBO J.* 23, 4760-4769.
10. Galloway, A. et al. (2016) *Science* 352, 453-9.

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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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