Revision 7

Store at -20C

#14980

eRF3 Antibody

Cell Signaling TECHNOLOGY®

Support: **877-678-TECH (8324)**

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	80	Rabbit	#P15170-3	2935

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

eRF3 Antibody recognizes endogenous levels of total eRF3 protein. This antibody preferentially recognizes eRF3a, but may cross-react with eRF3b when highly expressed.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro180 of human eRF3a protein, isoform 3. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Eukaryotic release factor 3 (eRF3, GSPT) is an evolutionarily conserved class II release factor and member of the GTPase superfamily that cooperates with eRF1 in polypeptide translation termination (1). Paralogous genes encode a pair of eRF3 proteins (eRF3a/GSPT1, eRF3b/GSPT2) that share a conserved carboxy-terminal GTPase/eRF1-binding domain and a non-conserved amino-terminal PABP1 binding site (2). The eRF3 carboxy-terminal region is involved in translation termination through binding and activation of the eRF1 release factor (1). The amino-terminal region of eRF3 is not required for eRF1 binding and activation, but is implicated in control of mRNA stability (3,4). Expression of eRF3 proteins vary, with eRF3a ubiquitously expressed and proliferation-dependent, while eRF3b expression is more restricted to brain tissue (2,5,6). Research studies demonstrate that eRF3 undergoes caspase-mediated cleavage and degradation related to reduced protein synthesis during DNA damage-induced apoptosis (7). Additional studies indicate that polyglycine expansion of the eRF3a amino terminus is associated with an increased susceptibility to breast and gastric cancer (8,9). It is likely that the polyglycine expansions of amino-terminal eRF3a may affect the ability of eRF3a to undergo caspase-mediated cleavage (9).

Background References

1. Zhouravleva, G. et al. (1995) *EMBO J* 14, 4065-72.
2. Hoshino, S. et al. (1998) *J Biol Chem* 273, 22254-9.
3. Hoshino, S. et al. (1999) *J Biol Chem* 274, 16677-80.
4. Amrani, N. et al. (2008) *Nature* 453, 1276-80.
5. Chauvin, C. et al. (2005) *Mol Cell Biol* 25, 5801-11.
6. Hoshino, S. et al. (1989) *EMBO J* 8, 3807-14.
7. Hashimoto, Y. et al. (2012) *Apoptosis* 17, 1287-99.
8. Malta-Vacas, J. et al. (2009) *Oncol Rep* 21, 1551-8.
9. Brito, M. et al. (2005) *Carcinogenesis* 26, 2046-9.

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 nonfat dry milk, 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

Limited Uses

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