Revision 6

Store at -20C

#97249

ERG (A7L1G) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-IC, FC-FP, C&R	H M	Endogenous	54	Rabbit IgG	#P11308	2078

Product Usage Information

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:200
Immunofluorescence (Immunocytochemistry)	1:500
Flow Cytometry (Fixed/Permeabilized)	1:50
CUT&RUN	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #45381.

Specificity/Sensitivity

ERG (A7L1G) Rabbit mAb recognizes endogenous levels of total ERG protein. Based on sequence identity, this antibody should detect isoforms ERG1, ERG2 and ERG3. This antibody does not cross-react with Fli1. Non-specific staining was observed in human stomach epithelium by immunohistochemistry. This antibody is not recommended for immunohistochemical analysis of mouse tissues.

Species predicted to react based on 100% sequence homology

Rat, Hamster, Pig, Horse, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human ERG protein.

Background

ETS-related gene (ERG) is a member of the E-26 transformation-specific (ETS) family of sequence-specific DNA-binding transcription factors (1). ERG plays important and highly conserved roles in vertebrate development. Early in embryonic development, ERG is highly expressed in the embryonic mesoderm and endothelium, where it plays a critical role in the formation of the vascular system, urogenital tract and bone development (2,3). Later in embryonic development, ERG functions to regulate the pluripotency of hematopoietic stem cells, endothelial cell homeostasis and angiogenesis (2,4-7). ERG expression is not restricted to development. In adult mouse, ERG is normally expressed in endothelial tissues, including adrenal, cartilage, heart, spleen, lymphatic endothelial and eosinophil cells (8). However, deregulation of ERG activity, often resulting from chromosomal rearrangements, has been implicated and linked to poor prognosis in a number of different cancers. Chromosomal translocations generating EWS/ERG chimeric proteins comprised of the amino-terminal transactivation domain of Ewing's sarcoma breakpoint region 1 (EWS) and the carboxy-terminal ETS domain of ERG have been identified in 5-10% of Ewing's sarcoma, an aggressive bone and soft tissue tumor (9). Chromosomal translocations between ERG and TLS/FUS or ERG and ELF4 have been implicated in acute myeloid leukemia (10, 11). Over-expression of ERG, resulting from gene fusion with the androgen-driven promoter of the TMPRSS2 gene, has been identified as a key driver of metastasis and marker for poor prognosis in prostate cancer (12).

Background References

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2. Birdsey, G.M. et al. (2008) *Blood* 111, 3498-506.
3. Vijayaraj, P. et al. (2012) *Development* 139, 3973-85.
4. Ng, A.P. et al. (2011) *Blood* 118, 2454-61.
5. Birdsey, G.M. et al. (2015) *Dev Cell* 32, 82-96.
6. Lathen, C. et al. (2014) *Circulation* 130, 1179-91.
7. McLaughlin, F. et al. (2001) *Blood* 98, 3332-9.
8. Mohamed, A.A. et al. (2010) *J Cancer* 1, 197-208.
9. Chen, S. et al. (2016) *Genes Chromosomes Cancer* 55, 340-9.

10. Ichikawa, H. et al. (1994) *Cancer Res* 54, 2865-8.
11. Moore, S.D. et al. (2006) *Leuk Res* 30, 1037-42.
12. Tomlins, S.A. et al. (2005) *Science* 310, 644-8.

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 **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **C&R:** CUT&RUN

Cross-Reactivity Key

H: Human **M:** Mouse

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Limited Uses