Revision 3

ERG (A7L1G) Rabbit mAb (PE Conjugate)

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M	Endogenous	Rabbit IgG	#P11308	2078

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

ERG (A7L1G) Rabbit mAb (PE Conjugate) 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.

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.

Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated ERG (A7L1G) Rabbit mAb #97249.

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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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.
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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).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **M:** Mouse

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