Revision 4

Store at -20C

#81493

EOMES (D8D1R) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC, FC-FP, ChIP, C&R	H	Endogenous	75, 85	Rabbit IgG	#O95936	8320

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 106 cells) per IP. This antibody has been validated using SimpleChIP® Plus Sonication Chromatin IP Kits.

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

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:400 - 1:1600
Flow Cytometry (Fixed/Permeabilized)	1:400 - 1:1600
Chromatin IP	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 #71103.

Specificity/Sensitivity

EOMES (D8D1R) Rabbit mAb recognizes endogenous levels of total EOMES protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro180 of human EOMES protein.

Background

The T-box family of transcription factors is named for their shared homology with the DNA binding domain of the mouse brachyury (T) gene product. Members of this family bind DNA and are capable of transcriptional activation. They also have evolutionarily conserved expression patterns and roles in embryonic development, primarily mesoderm development (1). EOMES, or Tbr2 (T-box brain 2), is a master regulator of mesoderm formation that is also essential for trophoblast formation, gastrulation, neurogenesis, and the differentiation of certain T cell subsets. Embryos from EOMES knockout mice die soon after implantation due to their inability to develop a trophoblast (2,3). Conditional neural knockout mice show defects in development of a specific population of neural progenitors known as intermediate-stage progenitor cells (IPCs) that give rise only to neurons (4,5). These cells are formed from the radial glia in the ventricular and sub-ventricular zones of the cortex. Expression of EOMES increases as cells develop from radial glia to IPCs and then decreases as IPCs progress to neurons. Recent evidence suggests that EOMES and IPCs may also play a role in neurogenesis in the adult hippocampal SGZ (5). EOMES is also a key transcription factor for memory T cells and for full effector differentiation of $CD8^+$ T cells (6). Expression of EOMES is induced in $CD8^+$ T cells following viral infection and bacterial infection where sufficient IL-12 has been produced to elicit acute host cell response (7).

Background References

1. Showell, C. et al. (2004) *Dev Dyn* 229, 201-18.
2. Russ, A.P. et al. (2000) *Nature* 404, 95-9.
3. Strumpf, D. et al. (2005) *Development* 132, 2093-102.
4. Englund, C. et al. (2005) *J Neurosci* 25, 247-51.
5. Hodge, R.D. et al. (2008) *J Neurosci* 28, 3707-17.
6. Takayanagi, M. et al. (2003) *Rheumatol Int* 23, 315-8.
7. Takemoto, N. et al. (2006) *J Immunol* 177, 7515-9.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **C&R:** CUT&RUN

Cross-Reactivity Key

H: Human

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