

Aiolos (D1C1E) Rabbit mAb

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

Applications: W, W-S, IP, IHC-P, FC-FP, ChIP, ChIP- seq, C&R, C&T	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 50,58,65	Source/Isotype: Rabbit IgG	UniProt ID: #Q9UKT9	Entrez-Gene Id: 22806
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Product Usage Information

For optimal ChIP and ChIP-seq results, use 5µl of antibody and 10µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

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

The CUT&Tag dilution was determined using CUT&Tag Assay Kit #77552.

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:200
Immunohistochemistry (Paraffin)	1:50
Flow Cytometry (Fixed/Permeabilized)	1:100 - 1:400
Chromatin IP	1:100
Chromatin IP-seq	1:100
CUT&RUN	1:100
CUT&Tag	1:100

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 #97279.

Specificity/Sensitivity

Aiolos (D1C1E) Rabbit mAb recognizes endogenous levels of total Aiolos protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro46 of human Aiolos protein.

Background

Aiolos is an Ikaros family transcription factor composed of several zinc fingers that mediate DNA binding and homodimerization or heterodimerization with other Ikaros family members (1). Multiple Aiolos isoforms are generated through alternative splicing of the portion of the transcript encoding the amino-terminal zinc fingers (2). Aiolos is expressed by lymphoid tissues, with highest expression levels seen in mature B and T cells (1). Ikaros family proteins control lymphocyte development by recruiting chromatin remodeling complexes to DNA (3). B cells from mice lacking Aiolos have a reduced threshold for activation, increased proliferation, and elevated levels of IgG and IgE. In addition, Aiolos mice develop B cell lymphomas (4). In T cells, Aiolos contributes to Th17 cell differentiation by suppressing IL-2 expression (5). Aberrant expression of Aiolos in transformed epithelial cells promotes anchorage independence through downregulation of adhesion-related genes (6). Alterations in the *Aiolos* gene are observed in near haploid acute lymphoblastic leukemia, and the genetic locus containing Aiolos is linked to increased susceptibility to rheumatoid arthritis and systemic lupus erythematosus (7-9).

Background References

1. Morgan, B. et al. (1997) *EMBO J* 16, 2004-13.
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3. Kim, J. et al. (1999) *Immunity* 10, 345-55.
4. Wang, J.H. et al. (1998) *Immunity* 9, 543-53.
5. Quintana, F.J. et al. (2012) *Nat Immunol* 13, 770-7.
6. Li, X. et al. (2014) *Cancer Cell* 25, 575-89.
7. Holmfeldt, L. et al. (2013) *Nat Genet* 45, 242-52.
8. Kurreeman, F.A. et al. (2012) *Am J Hum Genet* 90, 524-32.
9. Lessard, C.J. et al. (2012) *Am J Hum Genet* 90, 648-60.

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 W-S: Simple Western™ IP: Immunoprecipitation IHC-P: Immunohistochemistry (Paraffin) FC-FP: Flow Cytometry (Fixed/Permeabilized) ChIP: Chromatin IP ChIP-seq: Chromatin IP-seq C&R: CUT&RUN C&T: CUT&Tag
Cross-Reactivity Key	H: Human M: Mouse
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