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#13232**T-bet/TBX21 (D6N8B) XP[®] Rabbit mAb**

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

Applications: W, IP, IHC-P, IF-IC, FC-FP, ChIP, ChIP- seq, C&R, C&T	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 58-68	Source/Isotype: Rabbit IgG	UniProt ID: #Q9UL17	Entrez-Gene Id: 30009
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Product Usage Information

For optimal ChIP and ChIP-seq 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[®] Enzymatic Chromatin IP Kits.

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

Application

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:1600
Immunofluorescence (Immunocytochemistry)	1:400
Flow Cytometry (Fixed/Permeabilized)	1:100 - 1:400
Chromatin IP	1:50
Chromatin IP-seq	1:50
CUT&RUN	1:50
CUT&Tag	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 #27112.

Specificity/Sensitivity

T-bet/TBX21 (D6N8B) XP[®] Rabbit mAb recognizes endogenous levels of total T-bet/TBX21 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly465 of human T-bet/TBX21 protein.

Background

The *T-box* gene family consists of transcription factors characterized by a related DNA-binding domain (T-box) of approximately 200 amino acids (1,2). The *T-box* genes exhibit diverse temporal and spatial patterns in the developing embryo. Studies have demonstrated members of this family play crucial roles during embryogenesis in a wide range of organisms by regulating cell fate decisions to establish the early body plan and to regulate later processes underlying organogenesis (3-5). Mutations in *T-box* genes are associated with many developmental defects (6). Recent studies also indicate potential roles in cancer by members of the T-box family (7-9).

T-bet, also as known as TBX21, plays a critical role in development and maintenance of type 1 helper T (Th1) and T-bet deficient mice display impaired Th1 differentiation (10,11).

Background References

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3. Showell, C. et al. (2004) *Dev Dyn* 229, 201-18.
4. Papaioannou, V.E. (2001) *Int Rev Cytol* 207, 1-70.
5. Hoogaars, W.M. et al. (2007) *Cell Mol Life Sci* 64, 646-60.
6. Baldini, A. (2004) *Curr Opin Cardiol* 19, 201-4.
7. Abrahams, A. et al. (2010) *IUBMB Life* 62, 92-102.
8. Rowley, M. et al. (2004) *J Mammary Gland Biol Neoplasia* 9, 109-18.
9. Yang, X.R. et al. (2009) *Nat Genet* 41, 1176-8.
10. Ho, I.C. and Glimcher, L.H. (2002) *Cell* 109 Suppl, S109-20.
11. Peng, S.L. (2006) *Cell Mol Immunol* 3, 87-95.

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) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq **C&R:** CUT&RUN **C&T:** CUT&Tag

Cross-Reactivity Key

H: Human

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