

**Qty:** 100 µg/400 µl

Rabbit anti-T-box 1

**Catalog No.** 34-9800

**Lot No.:** See product label

## Rabbit anti-T-box 1

### FORM

This polyclonal antibody is supplied as a 400 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. The antibody is epitope-affinity-purified from rabbit antiserum.

**PAD:** ZMD.248

### IMMUNOGEN

Synthetic peptide derived from the internal region of the mouse T-box 1 (Tbx1) protein.

### SPECIFICITY

This antibody reacts with the mouse T-box 1 protein. On Western blots, a ~50 kDa band is identified in mouse testis, lung, and skeletal muscle homogenates. In mouse testis, an additional band at ~40 kDa, which may represent an isoform of T-box 1, is also identified.

### REACTIVITY

Reactivity has been confirmed with mouse testis, lung, and skeletal muscle tissue homogenates. Based on 98% amino acid sequence identity, this antibody is also expected to react with all three isoforms (A, B, C) of human T-box 1.

Sample	Western Blotting	Immuno-precipitation (native)
Human	ND	ND
Mouse	+++	++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Immunoprecipitation (native):** 1-3 µg/mL

**Western Blotting:** 1-3 µg/mL

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

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PI349800

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**BACKGROUND**

*T-box 1* (or *Tbx1*) is a member of a gene family characterized by the presence of a region known as the T-box, which is a DNA-binding domain homologous to a region found in the protein product of the *T* gene. The *T*, or *Brachyury*, gene was first identified as being responsible for a mutated mouse phenotype with a short, blunt-ended tail. The T-box DNA-binding domain is 173-185 amino acids in length, and demonstrates strong evolutionary conservation across vertebrate species.

Seven mouse T-box genes have been identified: *Tbx1-Tbx6* and *Tbr-1*.<sup>1-3</sup> *Tbx1* gene expression has been studied by RT-PCR and *in situ* hybridization (ISH) throughout murine embryonic development; high expression levels correspond with cranial neural crest cell migration (embryonic days 8.5 – 10.5) and therefore suggest an important role in the development of facial and glandular structures of the head and neck region, including the parathyroid and thymus glands.<sup>4</sup>

The human ortholog of the mouse *Tbx1* gene has been mapped to chromosome region 22p11.2,<sup>4</sup> a region commonly deleted in DiGeorge syndrome (DGS). In humans, DGS is characterized by conotruncal cardiac defects, aplasia or hyperplasia of the thymus and parathyroid glands, palate abnormalities, developmental delay, and craniofacial dysmorphism. Mouse models of heterozygous null *Tbx1* mutations produce cardiovascular defects, disrupted neural crest and cranial nerve migration, middle and inner ear defects, and developmental abnormalities, modeling the human DiGeorge syndrome.<sup>5-9</sup>

**REFERENCES**

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8. Funke B, et al. *Hum Mol Genet* 10(22):2549-2556, 2001.
9. Vitelli F, et al. *Hum Mol Genet* 11(8):915-922, 2002.

**RELATED PRODUCTS**

<b>Product</b>	<b>Clone/PAD*</b>	<b>Cat. No.</b>
Mouse anti-ARVCF	4B1	32-3200
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

\*PAD: Polyclonal Antibody Designation

<b>Conjugate</b>	<b>ZyMAX™ Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX™ Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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