



Qty: 100 µg/400 µL

Rabbit anti-T-box 2

Catalog No. 42-3700

Lot No.

Rabbit anti-T-box 2

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. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.558

IMMUNOGEN

Synthetic peptide derived from the internal region of the human, mouse, and dog T-box 2 proteins, which are identical to predicted rat, chimpanzee, and bovine sequences

SPECIFICITY

This antibody is specific for the T-box 2 (Tbx2) protein. On Western blots, it identifies the target band at ~78 kDa.

REACTIVITY

Reactivity has been confirmed with human A375 and PANC-1 cell lysates, mouse lung homogenates, and overexpressed Tbx2 (Invitrogen ORF IOH29393). Based on amino acid sequence homology, reactivity with dog is also expected.

Sample	Western Blotting	Immuno-precipitation
Human	+++	++
Mouse	++	ND
Dog	ND	ND

(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.

Western Blotting: 1-3 µg/mL

Immunoprecipitation: 5 µg/IP reaction

STORAGE

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

(cont'd)

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BACKGROUND

The *Tbx2* gene belongs to a phylogenetically conserved family of genes that share a common DNA-binding domain, the T-box. *T-box* genes encode transcription factors involved in the regulation of developmental processes.¹ *Tbx2* shares strong sequence similarity with the *Drosophila omb* protein, and is primarily expressed in the adult in kidney, lung, and placenta.

In the developing heart, T-box 2 is also expressed in the outflow tract, inner curvature, atrioventricular canal, and inflow tract.² Homozygous *Tbx2*-null mice show morphological defects in development of the atrioventricular canal and septation of the outflow tract, revealing a crucial role for this protein in cardiac development. T-box 2 also plays a role in the formation of the neural plate by interacting with WNT signaling.² The *Tbx2* gene has been described as being amplified in a subset of human breast cancers,³ preferentially overexpressed in BRCA1 and BRCA2 mutant tumors.⁴ The T-box 2 protein is overexpressed in melanomas, and plays an important role in maintaining proliferation and suppression of senescence.⁵

REFERENCES

1. Rowley M, et al. *J Mammary Gland Biol Neoplasia* 9(2) :109-118, 2004.
2. Fong SH, et al. *Development* 131(20):5041-5052, 2005.
3. Jacobs JJ, et al. *Nature Genet* 26(3) :291-299, 2000.
4. Sinclair CS, et al. *Cancer Res* 62(13):3587-3591, 2002.
5. Vance KW, et al. *Cancer Res* 65(6):226-2268, 2005.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

Conjugate	ZyMAX[™] Goat x Rabbit IgG (H+L)	ZyMAX[™] Goat x Mouse IgG (H+L)
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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