

Product Information

Anti-HOXB4

produced in rabbit, affinity isolated antibody

Product Number **H0666**

Product Description

Anti- HOXB4 is produced in rabbit using as immunogen a synthetic peptide corresponding to a fragment of human HOXB4 (GenelD: 3214) conjugated to KLH. The corresponding sequence is identical in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-HOXB4 recognizes human and mouse HOXB4 (also known as HOX2; HOX2F; Hox-2.6). The antibody may be used in several immunochemical techniques including immunoblotting (~35 kDa) and immunofluorescence. Detection of the HOXB4 band by immunoblotting is specifically inhibited with the immunizing peptide.

Hox genes are evolutionarily conserved transcription factors, which act to control important development pathways involved in morphogenesis of the embryo. In vertebrates, there are 39 *HOX* genes that are organized into four clusters (*HOXA–HOXD*), located on different chromosomes (7p15, 17q21.2, 12q13, and 2q31.). Each cluster contains 9–11 member genes encoding relatively small gene products containing a highly conserved 60-amino-acid region (the homeobox), with DNA-binding activity that contributes to their activity as transcription factors.¹ One of the major functions of *Hox* genes seems to be the formation of the body plan during embryonic development.² In addition to roles in normal development, altered homeobox gene function or expression is implicated in the development of cancers, such as leukemias or neoplasms of the breast, prostate, kidney, colon, skin and brain.^{3,4}

HOXB4 is expressed in primitive hematopoietic cells and has been shown to play an important role regulating the balance between hematopoietic stem cell renewal and differentiation.^{5,6}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 2–4 µg/mL is recommended using lysates of K562.

Immunofluorescence: a working antibody concentration of 2.5–5 µg/mL is recommended using paraformaldehyde fixed NIH-3T3 cells overexpressing HOXB4.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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3. Stuart, E.T. et al., *Adv. Genet.*, **33**, 255–274 (1995).
4. Cillo, C. et al., *Exp Cell Res.*, **248**, 1–9 (1999).
5. Shen, W.F., et al., *EMBO. J.*, **11**, 993–999 (1992).
6. Giannola, D.M., et al., *J. Exp. Med.*, **192**, 1479–1490 (2000).

VS,SG,TD,KAA,PHC,MAM 03/19-1