

Product Information

Anti-HOXA3

produced in rabbit, affinity isolated antibody

Product Number **H3791**

Product Description

Anti-HOXA3 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human HOXA3 (GenelD: 3200), conjugated to KLH. The corresponding sequence is identical in mouse and differs by one amino acid in rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-HOXA3 specifically recognizes HOXA3. The antibody may be used in several immunochemical techniques including Immunoblotting (~60 kDa), immunoprecipitation, and immunofluorescence. Staining of the HOXA3 band in immunoblotting is specifically inhibited with the immunizing peptide.

Hox genes are evolutionarily conserved transcription factors which act to control important development pathways involved in embryo morphogenesis. 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 actions 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 in neoplasms of the breast, prostate, kidney, colon, skin, and brain.^{3,4}

Disruption of the *HOXA3* gene (also known as Hox-1E, HXA3) results in embryonic lethality, which was rescued by placing *HOXD3*.⁵ *HOXA3* expression, is upregulated during neovascularization in response to injury indicating that *HOXA3* promotes angiogenesis.⁶

Reagent

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

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

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

Product Profile

Immunoblotting: a working antibody concentration of 2–4 µg/mL is recommended using lysates of HEK-293T cells overexpressing human HOXA3.

Immunoprecipitation: a working antibody amount of 5–10 µg is recommended using lysates of HEK-293T cells overexpressing human HOXA3.

Immunofluorescence: a working antibody concentration of 2–5 µg/mL is recommended using paraformaldehyde fixed HEK-293T cells overexpressing human HOXA3.

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

References

1. Lemons, D. et al., *Science*, **313**, 1918–1922 (2006).
2. Akam, M. *Philos. Trans. R. Soc. Lond. B. Biol. Sci.*, **349**, 313–319 (1995).
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. Greer, J. et al., *Nature*, **403**, 661–665 (2000).
6. Mace, K.A. et al., *J. Cell Sci.*, **118**, 2567–2577 (2005).

VS,SG,CS,BR,PHC,MAM 06/19-1