

HTH (dG-20): sc-26187

BACKGROUND

Homeodomain-containing Hox proteins regulate segmental identity in *Drosophila* in concert with two partners known as extradenticle (EXD) and homothorax (HTH). EXD and HTH are DNA-binding, homeodomain proteins. Vertebrate orthologs of EXD and HTH, known as Pbx and Meis (named for a myeloid ecotropic leukemia virus integration site), respectively, are encoded by multigene families and are present in multimeric complexes together with vertebrate homeotic (Hox) proteins. In *Drosophila*, differences between segments, such as the presence or absence of appendages or the identity of structures along the anterior-posterior axis, are controlled by Hox transcription factors. Co-factor homeodomain proteins such as HTH and EXD can increase the DNA-binding specificity of Hox protein transcription factors. HTH binds to the homeotic co-factor extradenticle (EXD) and translocates it to the nucleus. The co-expression of EXD and HTH with distal-less is required to establish antenna fate.

REFERENCES

1. Waskiewicz, A.J., Rikhof, H.A., Hernandez, R.E., and Moens, C.B. 2001. Zebrafish Meis functions to stabilize Pbx proteins and regulate hindbrain patterning. *Development* 128: 4139-4151.
2. Waskiewicz, A.J., Rikhof, H.A., Hernandez, R.E. and Moens, C.B. 2001. Zebrafish Meis functions to stabilize Pbx proteins and regulate hindbrain patterning. *Development* 128: 4139-4151.
3. Dong, P.D., Dicks, J.S. and Panganiban, G. 2002. Distal-less and homothorax regulate multiple targets to pattern the *Drosophila* antenna. *Development* 129: 1967-1974.
4. Galant, R., Walsh, C.M. and Carroll, S.B. 2002. Hox repression of a target gene: extradenticle-independent, additive action through multiple monomer binding sites. *Development* 129: 3115-3126.
5. Van Auken, K., Weaver, D., Robertson, B., Sundaram, M., Saldi, T., Edgar, L., Elling, U., Lee, M., Boese, Q. and Wood, W.B. 2002. Roles of the homothorax/Meis/Prep homolog UNC-62 and the Exd/Pbx homologs CEH-20 and CEH-40 in *C. elegans* embryogenesis. *Development* 129: 5255-5268.
6. Gebelein, B., Culi, J., Ryoo, H.D., Zhang, W. and Mann, R.S. 2002. Specificity of distal-less repression and limb primordia development by abdominal Hox proteins. *Dev. Cell* 3: 487-498.

SOURCE

HTH (dG-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HTH of *Drosophila melanogaster* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

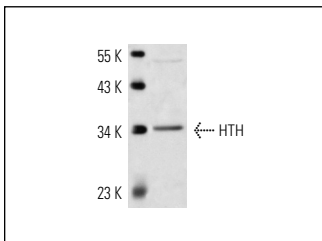
HTH (dG-20) is recommended for detection of HTH of *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Positive Controls: Schneider's *Drosophila* whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HTH (dG-20): sc-26187. Western blot analysis of HTH expression in Schneider's *Drosophila* whole cell lysate.

SELECT PRODUCT CITATIONS

1. Peng, H.W., Slattery, M. and Mann, R.S. 2009. Transcription factor choice in the Hippo signaling pathway: homothorax and yorkie regulation of the microRNA bantam in the progenitor domain of the *Drosophila* eye imaginal disc. *Genes Dev.* 23: 2307-2319.
2. Agelopoulou, M., McKay, D.J. and Mann, R.S. 2012. Developmental regulation of chromatin conformation by Hox proteins in *Drosophila*. *Cell Rep.* 1: 350-359.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.