

# engrailed (d-300): sc-28640

## BACKGROUND

*Drosophila melanogaster* is a proven and effective model for studying developmental and cellular processes common to higher eukaryotes. Approximately 13,600 genes have been elucidated from more than 120 megabases of euchromatin, and they are organized among the chromosomes 2, 3, 4, X and Y, with the Y chromosome being predominately heterochromatic. *Drosophila* genes can be categorized based on the type of protein for which they encode and are represented by six major classifications, which include intracellular signaling proteins, transmembrane proteins, RNA binding proteins, secreted factors, transcription regulators (basic helix-loop-helix, homeodomain containing, zinc finger containing, and chromatin associated) or other functional proteins. Among these numerous proteins, engrailed (Apa, Apigmented abdomen) is a transcription factor that mediates proper segmentation and influences the development of the posterior compartments of each segment during *Drosophila* embryogenesis.

## REFERENCES

1. Fjose, A., et al. 1985. Isolation of a homeobox-containing gene from the engrailed region of *Drosophila* and the spatial distribution of its transcripts. *Nature* 313: 284-289.
2. Poole, S.J., et al. 1985. The engrailed locus of *Drosophila*: structural analysis of an embryonic transcript. *Cell* 40: 37-43.
3. Kassisi, J.A., et al. 1989. Evolutionary conservation of homeodomain-binding sites and other sequences upstream and within the major transcription unit of the *Drosophila* segmentation gene engrailed. *Mol. Cell Biol.* 9: 4304-4311.
4. Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. *Science* 287: 2185-2195.
5. The Interactive Fly. <http://www.sdbonline.org/fly/aimain/1aahome.htm>. <http://www.sdbonline.org/fly/segment/engrail1.htm>
6. LocusLink Report (LocusID: 36240). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## SOURCE

engrailed (d-300) is a rabbit polyclonal antibody raised against amino acids 99-398 mapping within an internal region of engrailed 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

engrailed (d-300) is recommended for detection of engrailed 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).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Wang, W., et al. 2011. Sexually dimorphic regulation of the Wingless morphogen controls sex-specific segment number in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 108: 11139-11144.
2. Christophe-Hobertus, C., et al. 2012. Functional inactivation of thyroid transcription factor-1 in PCC13 thyroid cells. *Mol. Cell. Endocrinol.* 358: 36-45.
3. Gummalla, M., et al. 2012. abd-A regulation by the iab-8 noncoding RNA. *PLoS Genet.* 8: e1002720.
4. Birkholz, O., et al. 2013. Abdominal-B and caudal inhibit the formation of specific neuroblasts in the *Drosophila* tail region. *Development* 140: 3552-3564.

## RESEARCH USE

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



Try **engrailed/invented (4D9): sc-53019**, our highly recommended monoclonal alternative to engrailed (d-300).