



# engrailed/invested (4D9): sc-53019

## BACKGROUND

In *Drosophila*, the engrailed gene plays an important role during development in segmentation, where it is required for the formation of posterior compartments. Expression studies have suggested that engrailed may also function early in organizing the preblastoderm and later in neurogenesis. Engrailed encodes a homeodomain-containing protein that can function as a transcription factor.

## REFERENCES

1. Patel, N.H., et al. 1989. Expression of engrailed proteins in arthropods, annelids and chordates. *Cell* 58: 955-968.
2. Patel, N.H., et al. 1994. Pair-rule expression patterns of even-skipped are found in both short- and long-germ beetles. *Nature* 367: 429-434.
3. White, P., et al. 1998. Signaling and adhesion activities of mammalian  $\beta$ -catenin and plakoglobin in *Drosophila*. *J. Cell Biol.* 140: 183-195.
4. Rowan, A.M., et al. 1999. Axial mesendoderm refines rostrocaudal pattern in the chick nervous system. *Development* 126: 2921-2934.
5. Yu, X., et al. 1999. A new *Drosophila* APC homologue associates with cells. *Nat. Cell Biol.* 1: 144-151.
6. Stauber, M., et al. 2000. Function of bicoid and hunchback homologs in the basal cyclorrhaphan fly *Megaselia* (*Phoridae*). *Proc. Natl. Acad. Sci. USA* 97: 10844-10849.
7. Harzsch, S. 2003. Evolution of identified arthropod neurons: the serotonergic system in relation to engrailed-expressing cells in the embryonic ventral nerve cord of the American lobster *Homarus americanus* Milne Edwards, 1873 (*Malacostraca*, *Pleocyemata*, *Homarida*). *Dev. Biol.* 258: 44-56.

## SOURCE

engrailed/invested (4D9) is a mouse monoclonal antibody raised against the C-terminal two-thirds of invested protein generated in *E. coli*.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\gamma$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

engrailed/invested (4D9) is available conjugated to agarose (sc-53019 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53019 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53019 PE), fluorescein (sc-53019 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53019 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53019 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53019 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53019 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53019 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53019 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

engrailed/invested (4D9) is recommended for detection of engrailed and invested of *Drosophila melanogaster* and *Xenopus laevis* origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of CD137L: 69 kDa

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## SELECT PRODUCT CITATIONS

1. Dolez, M., et al. 2011. Laminins, via heparan sulfate proteoglycans, participate in zebrafish myotome morphogenesis by modulating the pattern of Bmp responsiveness. *Development* 138: 97-106.
2. Galanter, V.M., et al. 2016. Imaging collective cell migration and hair cell regeneration in the sensory lateral line. *Methods Cell Biol.* 134: 211-256.

## RESEARCH USE

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

## PROTOCOLS

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