SANTA CRUZ BIOTECHNOLOGY, INC.

toll (d-300): sc-33741

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Many of the genes expressed in *Drosophila* are structurally and functionally similar across species, as are the pathways involved in transducing intracellular signaling. Toll (dToll), whose mammalian homolog is the Interleukin-1 (IL-1) receptor, contributes to proper embryonic dorsal-ventral patterning during development and mediates immune response through a toll-cactus-dorsal pathway.

REFERENCES

1. Hashimoto, C., et al. 1988. The toll gene of *Drosophila*, required for dorsal-ventral embryonic polarity, appears to encode a transmembrane protein. Cell 52: 269-279.
2. Halfon, M.S. and Keshishian, H. 1998. The toll pathway is required in the epidermis for muscle development in the *Drosophila* embryo. Dev. Biol. 199: 164-174.
3. Adams, M.D., et al. 2000. The genome sequence of *Drosophila melanogaster*. Science 287: 2185-2195.
4. Anderson, K.V. 2000. Toll signaling pathways in the innate immune response. Curr. Opin. Immunol. 12: 13-19.
5. Lopes, E.S. and Araujo, H.M. 2004. The maternal JAK/Stat pathway of *Drosophila* regulates embryonic dorsal-ventral patterning. Braz. J. Med. Biol. Res. 37: 1811-1818.
6. Wang, J., et al. 2005. Expression, regulation, and requirement of the toll transmembrane protein during dorsal vessel formation in *Drosophila melanogaster*. Mol. Cell. Biol. 25: 4200-4210.
7. The Interactive Fly. http://www.sdbonline.org/fly/aimain/1aahome.htm. http://www.sdbonline.org/fly/torstoll/toll1.htm
8. LocusLink Report (LocusID: 43222). http://www.ncbi.nlm.nih.gov/LocusLink/

SOURCE

toll (d-300) is a rabbit polyclonal antibody raised against amino acids 31-330 mapping within an N-terminal extracellular domain of toll 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.

RESEARCH USE

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

APPLICATIONS

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

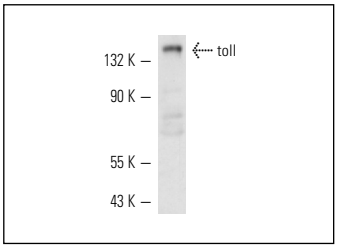
Molecular Weight of toll: 133 kDa.

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 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.

DATA



toll (d-300): sc-33741. Western blot analysis of toll expression in Schneider's *Drosophila* whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lund, V.K., et al. 2010. Endocytosis is required for Toll signaling and shaping of the Dorsal/NFκB morphogen gradient during *Drosophila* embryogenesis. Proc. Natl. Acad. Sci. USA 107: 18028-18033.
2. Duerfeldt, A.S., et al. 2012. Development of a Grp94 inhibitor. J. Am. Chem. Soc. 134: 9796-9804.

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 or our catalog for detailed protocols and support products.