

EGFR (d-298): sc-33746

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 signals. Among these proteins, the EGFR (epidermal growth factor receptor) is a receptor tyrosine kinase that mediates several events including ectodermal tissue survival, proliferation of imaginal discs and morphogenesis in response to the cognate ligands Gurken, Spitz and Argos.

REFERENCES

1. Downward, J., et al. 1984. Autophosphorylation sites on the epidermal growth factor receptor. *Nature* 311: 483-485.
2. Gullick, W.J., et al. 1985. Antibodies to the autophosphorylation sites of the epidermal growth factor receptor protein-tyrosine kinase as probes of structure and function. *EMBO J.* 4: 2869-2877.
3. Gullick, W.J., et al. 1986. Expression of epidermal growth factor receptors on human cervical, ovarian, and vulval carcinomas. *Cancer Res.* 46: 285-292.
4. Berger, M.S., et al. 1987. Epidermal growth factor receptors in lung tumours. *J. Pathol.* 152: 297-307.
5. Gamou, S., et al. 1988. Biosynthesis of the epidermal growth factor receptor in human squamous cell carcinoma lines: secretion of the truncated receptor is not common to epidermal growth factor receptor-hyper-producing cells. *Cell Struct. Funct.* 13: 25-38.
6. Fenstermaker, R.A., et al. 2000. Deletion and tandem duplication of exons 2-7 in the epidermal growth factor receptor gene of a human malignant glioma. *Oncogene* 19: 4542-4548.
7. Rubin, I., et al. 2001. The basic biology of HER2. *Ann. Oncol.* 12: S3-S8.
8. Katiyar, S.K. 2001. A single physiologic dose of ultraviolet light exposure to human skin *in vivo* induces phosphorylation of epidermal growth factor receptor. *Int. J. Oncol.* 19: 459-464.

SOURCE

EGFR (d-298) is a rabbit polyclonal antibody raised against amino acids 31-328 mapping within an N-terminal extracellular domain of EGFR 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.

APPLICATIONS

EGFR (d-298) is recommended for detection of EGFR 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 EGFR: 170 kDa.

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. Shannon, P., et al. 2005. Pathological and molecular progression of astrocytomas in a GFAP: 12 V-Ha-Ras mouse astrocytoma model. *Am. J. Pathol.* 167: 859-867.
2. Arora, N., et al. 2012. Unraveling the role of membrane proteins Notch, Pvr, and EGFR in altering integrin diffusion and clustering. *Anal. Bioanal. Chem.* 404: 2339-2348.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.