

## ERBIN (K-13): sc-13249

### BACKGROUND

The ErbB-2 receptor tyrosine kinase evolved as a shared co-receptor of all ErbB-specific growth factors and acts as a coordinator of a variety of biological signaling networks. ErbB-2 couples ErbB receptors to the migration/invasion machinery of carcinoma cells by employing adaptor proteins, such as p130CAS and c-Crk II, which regulate the Actin-Myosin cytoskeleton of migratory cells. ErbB-2 is expressed in basal cells of squamous epithelia and is important in the morphogenesis and oncogenesis of secretory epithelia. In epithelia, ErbB-2 employs the adaptor protein ERBIN (ErbB-2 interacting protein), which functions in the localization and signaling of ErbB-2. ERBIN contains a PDZ domain that directly and specifically interacts with ErbB-2, causing ERBIN and ErbB-2 to co-localize to the lateral membrane of intestinal epithelial cells. ERBIN provides further evidence to support the claim that the tumorigenic action of ErbB-2 may be attributed to its ability to act as a shared signaling subunit, rather than functioning as a distinct receptor.

### REFERENCES

1. Pinkas-Kramarski, R., et al. 1997. ErbB receptors and EGF-like ligands: cell lineage determination and oncogenesis through combinatorial signaling. *J. Mammary Gland Biol. Neoplasia* 2: 97-107.
2. Xie, W., et al. 1998. Targeted expression of activated ErbB-2 to the epidermis of transgenic mice elicits striking developmental abnormalities in the epidermis and hair follicles. *Cell Growth Differ.* 9: 313-325.
3. Klapper, L.N., et al. 1999. The ErbB-2/HER2 oncoprotein of human carcinomas may function solely as a shared coreceptor for multiple stroma-derived growth factors. *Proc. Natl. Acad. Sci. USA* 96: 4995-5000.
4. Spencer, K.S., et al. 2000. ErbB-2 is necessary for induction of carcinoma cell invasion by ErbB family receptor tyrosine kinases. *J. Cell Biol.* 148: 385-397.
5. Borg, J.P., et al. 2000. ERBIN: a basolateral PDZ protein that interacts with the mammalian ErbB-2/HER2 receptor. *Nat. Cell Biol.* 2: 407-414.

### CHROMOSOMAL LOCATION

Genetic locus: ERBB2IP (human) mapping to 5q12.3; Erbb2ip (mouse) mapping to 13 D1.

### SOURCE

ERBIN (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ERBIN of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13249 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-13249 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ERBIN (K-13) is recommended for detection of ERBIN of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for ERBIN siRNA (h): sc-40541, ERBIN siRNA (m): sc-40542, ERBIN shRNA Plasmid (h): sc-40541-SH, ERBIN shRNA Plasmid (m): sc-40542-SH, ERBIN shRNA (h) Lentiviral Particles: sc-40541-V and ERBIN shRNA (m) Lentiviral Particles: sc-40542-V.

ERBIN (K-13) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

### 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) 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.

### SELECT PRODUCT CITATIONS

1. Zhang, G., et al. 2008. Screening for EphB signaling effectors using SILAC with a linear ion trap-orbitrap mass spectrometer. *J. Proteome Res.* 7: 4715-4726.
2. Wilkes, M.C., et al. 2009. ERBIN and the NF2 tumor suppressor Merlin cooperatively regulate cell-type-specific activation of PAK2 by TGFβ. *Dev. Cell* 16: 433-444.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **ERBIN (10D2): sc-293468**, our highly recommended monoclonal alternative to ERBIN (K-13).