SANTA CRUZ BIOTECHNOLOGY, INC.

ERRβ/γ (E-1): sc-376449

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Estrogen and progesterone receptors are members of a family of transcription factors that are regulated by the binding of their cognate ligands. The interaction of hormone-bound estrogen receptors with estrogen responsive elements (EREs) alters transcription of ERE-containing genes. Estrogen receptor-related proteins (ERRα, β and γ) are orphan nuclear receptors. Like estrogen receptors, ERRs bind specifically to EREs to activate reporter genes. ERRβ, also known as steroid hormone receptor ERR2 or estrogen receptor-like 2, is expressed during mammary gland development and is critical in embryo development. The loss of ERRβ results in severely impaired chorion formation leading to placental failure and embryonic death. ERRβ also potently represses the transcriptional activity of Nrf2. ERRγ, also known as ERR3, is abundantly expressed in fetal heart. The loss of ERRγ results in lactatemia and death within the first week of life.

REFERENCES

1. Luo, J., et al. 1997. Placental abnormalities in mouse embryos lacking the orphan nuclear receptor ERRβ. Nature 388: 778-782.
2. Chen, F., et al. 1999. Identification of two hERR2-related novel nuclear receptors utilizing bioinformatics and inverse PCR. Gene 228: 101-109.
3. Hong, H., et al. 1999. Hormone-independent transcriptional activation and coactivator binding by novel orphan nuclear receptor ERR3. J. Biol. Chem. 274: 22618-22626.

CHROMOSOMAL LOCATION

Genetic locus: ESRRB (human) mapping to 14q24.3, ESRRG (human) mapping to 1q41; Esrrb (mouse) mapping to 12 D2, Esrrg (mouse) mapping to 1 H6.

SOURCE

ERRβ/γ (E-1) is a mouse monoclonal antibody raised against amino acids 251-316 mapping within an internal region of ERRβ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-376449 X, 200 µg/0.1 ml.

is available conjugated to agarose (sc-376449 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376449 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376449 PE), fluorescein (sc-376449 FITC), Alexa Fluor® 488 (sc-376449 AF488), Alexa Fluor® 546 (sc-376449 AF546), Alexa Fluor® 594 (sc-376449 AF594) or Alexa Fluor® 647 (sc-376449 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376449 AF680) or Alexa Fluor® 790 (sc-376449 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

ERRβ/γ (E-1) is recommended for detection of ERRβ and ERRγ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ERRβ/γ (E-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ERRβ: 56 kDa.

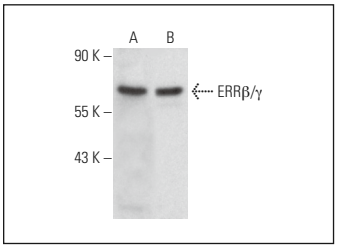
Molecular Weight of ERRγ: 51 kDa.

Positive Controls: A549 cell lysate: sc-2413 or RBL-1 whole cell lysate: sc-364790.

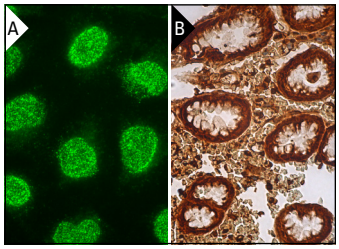
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ERRβ/γ (E-1): sc-376449. Western blot analysis of ERRβ/γ expression in A549 (**A**) and RBL-1 (**B**) whole cell lysates.



ERRβ/γ (E-1): sc-376449. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sousa, M.I., et al. 2020. Metabolic characterization of a paused-like pluripotent state. Biochim. Biophys. Acta Gen. Subj. 1864: 129612.

RESEARCH USE

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