

ERR β / γ (E-1): sc-376449

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 (ERR α , β and γ) are orphan nuclear receptors. Like estrogen receptors, ERRs bind specifically to EREs to activate reporter genes. ERR β , also known as steroid hormone receptor ERR2 or estrogen receptor-like 2, is expressed during mammary gland development and is critical in embryonic development. The loss of ERR β results in severely impaired chorion formation leading to placental failure and embryonic death. ERR β also potently represses the transcriptional activity of Nrf2. ERR γ , also known as ERR3, is abundantly expressed in fetal heart. The loss of ERR γ 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 ERR β . *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

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

PRODUCT

Each vial contains 200 μ g IgG₁ 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 μ g/0.1 ml.

is available conjugated to agarose (sc-376449 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376449 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] 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

ERR β / γ (E-1) is recommended for detection of ERR β and ERR γ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

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

Molecular Weight of ERR β : 56 kDa.

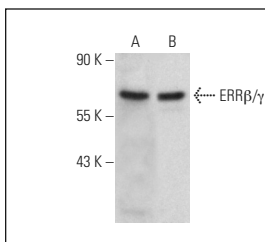
Molecular Weight of ERR γ : 51 kDa.

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

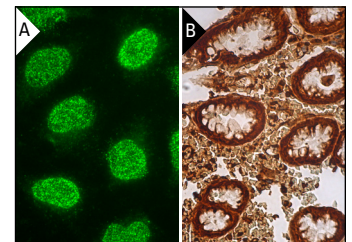
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



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



ERR β / 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.