SANTA CRUZ BIOTECHNOLOGY, INC.

ERRβ (Z-22): sc-133562

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, contains a DNA binding domain and is highly homologous to ERRα. ERRβ is expressed during mammary gland development and is critical in embryo development. It is expressed in a subset of diploid trophoblast cells which make up the chorion. The loss of ERRβ results in severely impaired chorion formation leading to placental failure and embryonic death. This suggests that ERRβ may be necessary for the proper formation or function of the chorion. In addition, ERRβ potently represses the transcriptional activity of Nrf2.

REFERENCES

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3. Chen, F., et al. 1999. Identification of two hERR2-related novel nuclear receptors utilizing bioinformatics and inverse PCR. Gene 228: 101-109.
4. Greschik, H., et al. 2002. Structural and functional evidence for ligand-independent transcriptional activation by the estrogen-related receptor 3. Mol. Cell 9: 303-313.
5. Cheung, C.P., et al. 2005. Expression and functional study of estrogen receptor-related receptors in human prostatic cells and tissues. J. Clin. Endocrinol. Metab. 90: 1830-1844.
6. Gearhart, M.D., et al. 2005. Inhibition of DNA binding by human estrogen-related receptor 2 and estrogen receptor α with minor groove binding polyamides. Biochemistry 44: 4196-4203.
7. Zhou, W., Liu, Z., Wu, J., Liu, J.H., Hyder, S.M., Antoniou, E. and Lubahn, D.B. 2006. Identification and characterization of two novel splicing isoforms of human estrogen-related receptor β. J. Clin. Endocrinol. Metab. 91: 569-579.
8. Zhou, W., Lo, S.C., Liu, J.H., Hannink, M. and Lubahn, D.B. 2007. ERRβ: A potent inhibitor of Nrf2 transcriptional activity. Mol. Cell. Endocrinol. 278: 52-62.

CHROMOSOMAL LOCATION

Genetic locus: ESRRB (human) mapping to 14q24.3; Esrrb (mouse) mapping to 12 D2.

SOURCE

ERRβ (Z-22) is an affinity purified rabbit polyclonal antibody raised against synthetic ERRβ peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

ERRβ (Z-22) is recommended for detection of ERRβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ERRβ siRNA (h): sc-60603, ERRβ siRNA (m): sc-60605, ERRβ shRNA Plasmid (h): sc-60603-SH, ERRβ shRNA Plasmid (m): sc-60605-SH, ERRβ shRNA (h) Lentiviral Particles: sc-60603-V and ERRβ shRNA (m) Lentiviral Particles: sc-60605-V.

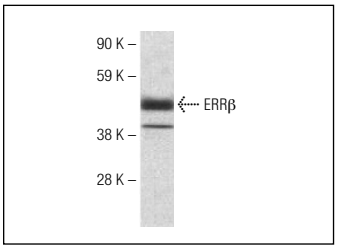
Molecular Weight of ERRβ: 56 kDa.

Positive Controls: human fetal kidney tissue extract.

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.

DATA



ERRβ (Z-22): sc-133562. Western blot analysis of ERRβ expression in human fetal kidney tissue extract.

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.