SANTA CRUZ BIOTECHNOLOGY, INC.

ERRα (2ERR2): sc-65718

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Estrogen related receptor α (ERRα) is a nuclear receptor in the superfamily of ligand-regulated transcription factors and is a member of the NR3B orphan nuclear receptor subgroup (consisting of α, β and γ). ERRα plays a role in modulating the estrogen signaling pathway. In addition, the expression of ERRα has been shown to increase during fasting and cold exposure. ERRα may be important for regulating mitochondrial biogenesis and oxidative metabolism by acting directly on genes necessary for mitochondrial function. Mice lacking ERRα are unable to maintain their body temperature in the cold. ERRα may also be involved in the maintenance and formation of cartilage. This information could be useful in finding therapeutic agents for a variety of diseases affecting the joints.

CHROMOSOMAL LOCATION

Genetic locus: ESRRA (human) mapping to 11q13.1; Esrra (mouse) mapping to 19 A.

SOURCE

ERRα (2ERR2) is a mouse monoclonal antibody raised against amino acids 1-78 of ERRα of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ERRα (2ERR2) is available conjugated to agarose (sc-65718 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-65718 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65718 PE), fluorescein (sc-65718 FITC), Alexa Fluor® 488 (sc-65718 AF488), Alexa Fluor® 546 (sc-65718 AF546), Alexa Fluor® 594 (sc-65718 AF594) or Alexa Fluor® 647 (sc-65718 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65718 AF680) or Alexa Fluor® 790 (sc-65718 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

ERRα (2ERR2) is recommended for detection of ERRα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ERRα siRNA (h): sc-44706, ERRα siRNA (m): sc-44707, ERRα shRNA Plasmid (h): sc-44706-SH, ERRα shRNA Plasmid (m): sc-44707-SH, ERRα shRNA (h) Lentiviral Particles: sc-44706-V and ERRα shRNA (m) Lentiviral Particles: sc-44707-V.

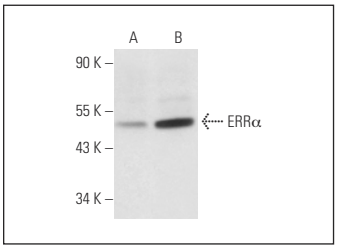
Molecular Weight of ERRα: 53 kDa.

Positive Controls: ERRα (h): 293T Lysate: sc-112428, HeLa whole cell lysate: sc-2200 or HeLa + serum-starved cell lysate: sc-24693.

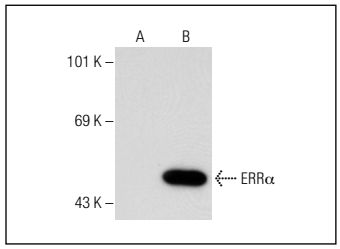
RECOMMENDED SUPPORT REAGENTS

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).

DATA



ERRα (2ERR2): sc-65718. Western blot analysis of ERRα expression in HeLa (**A**) and serum-starved HeLa (**B**) whole cell lysates.



ERRα (2ERR2): sc-65718. Western blot analysis of ERRα expression in non-transfected: sc-117752 (**A**) and human ERRα transfected: sc-112428 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Esch, A.M., et al. 2012. Production and characterization of monoclonal antibodies to estrogen-related receptor α (ERRα) and use in immunoaffinity chromatography. Protein Expr. Purif. 84: 47-58.
2. Wu, Y., et al. 2017. Kaempferol targets estrogen-related receptor α and suppresses the angiogenesis of human retinal endothelial cells under high glucose conditions. Exp. Ther. Med. 14: 5576-5582.
3. Tang, Y., et al. 2018. Estrogen-related receptor α is involved in Alzheimer's disease-like pathology. Exp. Neurol. 305: 89-96.
4. Chen, Y., et al. 2019. Oestrogen-related receptor α mediates chemotherapy resistance of osteosarcoma cells via regulation of ABCB1. J. Cell. Mol. Med. 23: 2115-2124.
5. Zamani, A.R.N., et al. 2020. Estradiol modulated colorectal cancer stem cells bioactivity and interaction with endothelial cells. Life Sci. 257: 118078.
6. He, Q., et al. 2022. IGF2BP1-regulated expression of ERRα is involved in metabolic reprogramming of chemotherapy resistant osteosarcoma cells. J. Transl. Med. 20: 348.
7. Eisalou, M.Y., et al. 2022. Effectiveness of γ Oryzanol on prevention of surgical induced endometriosis development in rat model. Sci. Rep. 12: 2816.
8. Luo, L., et al. 2023. Angelica sinensis polysaccharide ameliorates nonalcoholic fatty liver disease via restoring estrogen-related receptor α expression in liver. Phytother. Res. 37: 5407-5417.

RESEARCH USE

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