

# ERR $\alpha$ (2ERR7): sc-65720

## BACKGROUND

Estrogen related receptor  $\alpha$  (ERR $\alpha$ ) 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  $\alpha$ ,  $\beta$  and  $\gamma$ ). ERR $\alpha$  plays a role in modulating the estrogen signaling pathway. In addition, the expression of ERR $\alpha$  has been shown to increase during fasting and cold exposure. ERR $\alpha$  may be important for regulating mitochondrial biogenesis and oxidative metabolism by acting directly on genes necessary for mitochondrial function. Mice lacking ERR $\alpha$  are unable to maintain their body temperature in the cold. ERR $\alpha$  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.

## REFERENCES

- Chen, F., et al. 1999. Identification of two hERR2-related novel nuclear receptors utilizing bioinformatics and inverse PCR. *Gene* 228: 101-109.
- Hong, H., et al. 1999. Hormone-independent transcriptional activation and coactivator binding by novel orphan nuclear receptor ERR3. *J. Biol. Chem.* 274: 22618-22626.
- 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.
- Hentschke, M., et al. 2003. Identification of PNRC2 and TLE1 as activation function-1 cofactors of the orphan nuclear receptor ERR $\gamma$ . *Biochem. Biophys. Res. Commun.* 312: 975-982.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: ESRR $\alpha$  (human) mapping to 11q13.1; Esrra (mouse) mapping to 19 A.

## SOURCE

ERR $\alpha$  (2ERR7) is a mouse monoclonal antibody raised against amino acids 198-376 of ERR $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ERR $\alpha$  (2ERR7) is available conjugated to agarose (sc-65720 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65720 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65720 PE), fluorescein (sc-65720 FITC), Alexa Fluor<sup>®</sup> 488 (sc-65720 AF488), Alexa Fluor<sup>®</sup> 546 (sc-65720 AF546), Alexa Fluor<sup>®</sup> 594 (sc-65720 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-65720 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-65720 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-65720 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

ERR $\alpha$  (2ERR7) is recommended for detection of ERR $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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

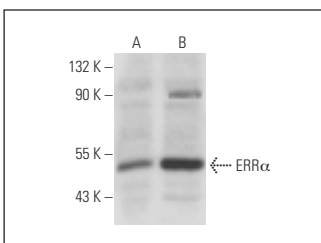
Molecular Weight of ERR $\alpha$ : 53 kDa.

Positive Controls: 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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



ERR $\alpha$  (2ERR7): sc-65720. Western blot analysis of ERR $\alpha$  expression in HeLa (A) and serum starved HeLa (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Esch, A.M., et al. 2012. Production and characterization of monoclonal antibodies to estrogen-related receptor  $\alpha$  (ERR $\alpha$ ) and use in immunoaffinity chromatography. *Protein Expr. Purif.* 84: 47-58.
- Gong, W., et al. 2019. Estrogen-related receptor- $\alpha$  mediates puromycin aminonucleoside-induced mesangial cell apoptosis and inflammatory injury. *Am. J. Physiol. Renal Physiol.* 316: F906-F913.

## 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.