SANTA CRUZ BIOTECHNOLOGY, INC.

Estrogen Receptor α (H226): sc-53493

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Estrogen receptors (ER) are members of the steroid/thyroid hormone receptor superfamily of ligand-activated transcription factors. Estrogen receptors, including ERα and ERβ, contain DNA binding and ligand binding domains and are critically involved in regulating the normal function of reproductive tissues. They are located in the nucleus, though some estrogen receptors associate with the cell surface membrane and can be rapidly activated by exposure of cells to estrogen. ERα and ERβ have been shown to be differentially activated by various ligands. Receptor-ligand interactions trigger a cascade of events, including dissociation from heat shock proteins, receptor dimerization, phosphorylation and the association of the hormone activated receptor with specific regulatory elements in target genes. Evidence suggests that ERα and ERβ may be regulated by distinct mechanisms even though they share many functional characteristics.

REFERENCES

1. Mason, B.H., et al. 1983. Progesterone and estrogen receptors as prognostic variables in breast cancer. Cancer Res. 43: 2985-2990.
2. Evans, R.M. 1988. The steroid and thyroid hormone receptor superfamily. Science 240: 889-895.
3. Danielian, P.S., et al. 1992. Identification of a conserved region required for hormone dependent transcriptional activation by steroid hormone receptors. EMBO J. 11: 1025-1033.
4. Kliewer, S.A., et al. 1992. Retinoid X receptor interacts with nuclear receptors in retinoic acid, thyroid hormone and vitamin D_3 signaling. Nature 355: 446-449.

CHROMOSOMAL LOCATION

Genetic locus: ESR1 (human) mapping to 6q25.1; Esr1 (mouse) mapping to 10 A1.

SOURCE

Estrogen Receptor α (H226) is a rat monoclonal antibody raised against Estrogen Receptor α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Estrogen Receptor α (H226) is available conjugated to agarose (sc-53493 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53493 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53493 PE), fluorescein (sc-53493 FITC), Alexa Fluor® 488 (sc-53493 AF488), Alexa Fluor® 546 (sc-53493 AF546), Alexa Fluor® 594 (sc-53493 AF594) or Alexa Fluor® 647 (sc-53493 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53493 AF680) or Alexa Fluor® 790 (sc-53493 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

Estrogen Receptor α (H226) is recommended for detection of Estrogen Receptor α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Estrogen Receptor α siRNA (h): sc-29305, Estrogen Receptor α siRNA (m): sc-29306, Estrogen Receptor α siRNA (r): sc-45949, Estrogen Receptor α shRNA Plasmid (h): sc-29305-SH, Estrogen Receptor α shRNA Plasmid (m): sc-29306-SH, Estrogen Receptor α shRNA Plasmid (r): sc-45949-SH, Estrogen Receptor α shRNA (h) Lentiviral Particles: sc-29305-V, Estrogen Receptor α shRNA (m) Lentiviral Particles: sc-29306-V and Estrogen Receptor α shRNA (r) Lentiviral Particles: sc-45949-V.

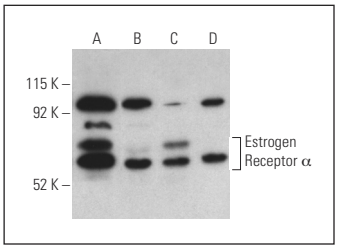
Molecular Weight of Estrogen Receptor α long isoform: 66 kDa.

Molecular Weight of Estrogen Receptor α short isoform: 54 kDa.

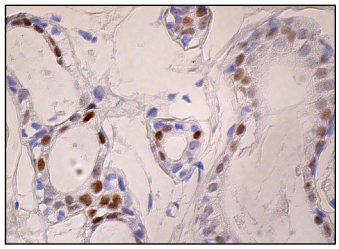
Molecular Weight of ER46/ER36: 48/36 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, MCF7 whole cell lysate: sc-2206 or ZR-75-1 cell lysate: sc-2241.

DATA



Estrogen Receptor α (H226) HRP: sc-53493 HRP. Direct western blot analysis of Estrogen Receptor α expression in MCF7 nuclear extract (**A**) and ZR-75-1 (**B**), MCF7 (**C**) and c4 (**D**) whole cell lysates.



Estrogen Receptor α (H226): sc-53493. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2011. Simvastatin induces estrogen receptor-α expression in bone, restores bone loss, and decreases ERα expression and uterine wet weight in ovariectomized rats. J. Bone Miner. Metab. 29: 396-403.
2. Hasan, M., et al. 2019. Pharmacological, mechanistic, and pharmacokinetic assessment of novel melatonin-tamoxifen drug conjugates as breast cancer drugs. Mol. Pharmacol. 96: 272-296.
3. Guo, S., et al. 2020. GLL398, an oral selective estrogen receptor degrader (SERD), blocks tumor growth in xenograft breast cancer models. Breast Cancer Res. Treat. 180: 359-368.

RESEARCH USE

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