

ER α (MC-20): sc-542

BACKGROUND

Estrogen receptors (ER) are members of the steroid/thyroid hormone receptor superfamily of ligand-activated transcription factors. Estrogen receptors, including ER α and ER β , 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. ER α and ER β 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 ER α and ER β 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.

CHROMOSOMAL LOCATION

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

SOURCE

ER α (MC-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of ER α of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG 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-542 X, 200 μ g/0.1 ml.

ER α (MC-20) is available conjugated either fluorescein (sc-542 FITC, 200 μ g/ml), Alexa Fluor[®] 488 (sc-542 AF488, 200 μ g/ml) or Alexa Fluor[®] 647 (sc-542 AF647, 200 μ g/ml), for IF, IHC(P) and FCM.

In addition, ER α (MC-20) is available conjugated to either TRITC (sc-542 TRITC, 200 μ g/ml) or Alexa Fluor[®] 405 (sc-542 AF405), 100 μ g/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-542 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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.

APPLICATIONS

ER α (MC-20) is recommended for detection of ER α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

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

Molecular Weight of ER α long isoform: 66 kDa.

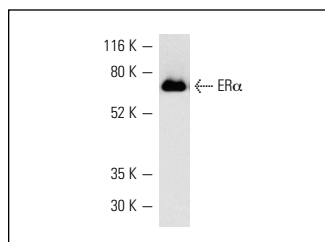
Molecular Weight of ER α short isoform: 54 kDa.

Molecular Weight of ER46: 48 kDa.

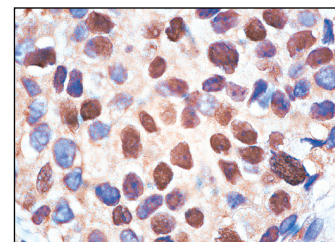
Molecular Weight of ER36: 36 kDa.

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

DATA



ER α (MC-20): sc-542. Western blot analysis of human recombinant ER α .



ER α (MC-20): sc-542. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Massaad-Massade, L., et al. 2002. HMGA1 enhances the transcriptional activity and binding of the estrogen receptor to its responsive element. *Biochemistry* 41: 2760-2768.
2. Wei, J., et al. 2014. Estrogen protects against the detrimental effects of repeated stress on glutamatergic transmission and cognition. *Mol. Psychiatry* 19: 588-598.
3. Sun, F., et al. 2015. A novel prostate cancer therapeutic strategy using icaritin-activated arylhydrocarbon-receptor to co-target androgen receptor and its splice variants. *Carcinogenesis* 36: 757-768.

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Try **ER α (F-10): sc-8002** or **ER α (D-12): sc-8005**, our highly recommended monoclonal alternatives to ER α (MC-20).