

ER α (6F11): sc-56836

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. 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

- Mason, B.H., et al. 1983. Progesterone and estrogen receptors as prognostic variables in breast cancer. *Cancer Res.* 43: 2985-2990.
- Evans, R.M. 1988. The steroid and thyroid hormone receptor superfamily. *Science* 240: 889-895.
- 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.
- Kliwer, S.A., et al. 1992. Retinoid X receptor interacts with nuclear receptors in retinoic acid, thyroid hormone and vitamin D₃ signaling. *Nature* 355: 446-449.
- Arnold, S.F., et al. 1995. Phosphorylation of the human estrogen receptor on Tyrosine 537 *in vivo* and by Src family tyrosine kinases *in vitro*. *Mol. Endocrinol.* 9: 24-33.

CHROMOSOMAL LOCATION

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

SOURCE

ER α (6F11) is a mouse monoclonal antibody raised against recombinant ER α of human origin.

PRODUCT

Each vial contains 250 μ l culture supernatant containing IgG₁ with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

APPLICATIONS

ER α (6F11) is recommended for detection of ER α of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:500).

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, T-47D cell lysate: sc-2293 or MCF7 nuclear extract: sc-2149.

SELECT PRODUCT CITATIONS

- Greenberg, J.A., et al. 2008. The estrogen receptor pathway in rhabdomyosarcoma: a role for estrogen receptor- β in proliferation and response to the antiestrogen 4'-OH-tamoxifen. *Cancer Res.* 68: 3476-3485.
- Guerra, M.T., et al. 2013. Excess androgen during perinatal life alters steroid receptor expression, apoptosis, and cell proliferation in the uteri of the offspring. *Reprod. Toxicol.* 40: 1-7.
- Gao, Z., et al. 2014. Superovulation does not affect the endocrine activity nor increase susceptibility to carcinogenesis of uterine and mammary glands of female offspring in mice. *J. Assist. Reprod. Genet.* 31: 1243-1249.
- Boras-Granic, K., et al. 2014. Deletion of the nuclear localization sequences and C-terminus of PTHrP impairs embryonic mammary development but also inhibits PTHrP production. *PLoS ONE* 9: e90418.
- Ciucci, A., et al. 2014. Gender effect in experimental models of human medulloblastoma: does the estrogen receptor β signaling play a role? *PLoS ONE* 9: e101623.
- Andruska, N., et al. 2015. Anticipatory estrogen activation of the unfolded protein response is linked to cell proliferation and poor survival in estrogen receptor α -positive breast cancer. *Oncogene* 34: 3760-3769.
- Zannoni, G.F., et al. 2016. Sexual dimorphism in medulloblastoma features. *Histopathology* 68: 541-548.

CONJUGATES

See **ER α (C-3): sc-514857** for ER α antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.