SANTA CRUZ BIOTECHNOLOGY, INC.

ERα (ER1D5): sc-73479

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.

CHROMOSOMAL LOCATION

Genetic locus: ESR1 (human) mapping to 6q25.1.

SOURCE

ERα (ER1D5) is a mouse monoclonal antibody raised against recombinant full length ERα of human origin.

PRODUCT

Each vial contains 250 µl culture supernatant containing IgG_1 with < 0.1% sodium azide.

APPLICATIONS

ERα (ER1D5) is recommended for detection of ERα of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:1000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:500) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:3000).

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

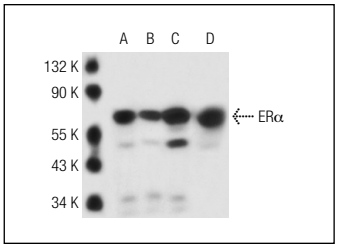
Molecular Weight of ERα: 66 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MCF7 nuclear extract: sc-2149 or T-47D cell lysate: sc-2293.

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.

DATA



ERα (ER1D5): sc-73479. Western blot analysis of ERα expression in MCF7 (**A**) and T-47D (**B**) whole cell lysates and MCF7 nuclear extract (**C**) and human breast tissue extract (**D**).

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2010. The aryl hydrocarbon receptor nuclear translocator-interacting protein 2 suppresses the estrogen receptor signaling via an Arnt-dependent mechanism. Arch. Biochem. Biophys. 502: 121-129.
2. Wallacides, A., et al. 2012. Estrogens promote proliferation of the seminoma-like TCam-2 cell line through a GPER-dependent ERα36 induction. Mol. Cell. Endocrinol. 350: 61-71.
3. Foulstone, E.J., et al. 2013. Insulin-like growth factor binding protein 2 (IGFBP-2) promotes growth and survival of breast epithelial cells: novel regulation of the estrogen receptor. Endocrinology 154: 1780-1793.
4. Zeng, L., et al. 2013. Insulin-like growth factor binding protein-3 (IGFBP-3) plays a role in the anti-tumorigenic effects of 5-Aza-2'-deoxycytidine (AZA) in breast cancer cells. Exp. Cell Res. 319: 2282-2295.
5. Grassilli, S., et al. 2014. High nuclear level of Vav1 is a positive prognostic factor in early invasive breast tumors: a role in modulating genes related to the efficiency of metastatic process. Oncotarget 5: 4320-4336.
6. Zeng, L., et al. 2014. Effects of physiological levels of the green tea extract epigallocatechin-3-gallate on breast cancer cells. Front. Endocrinol. 5: 61.
7. Du, M.J., et al. 2014. Estrogen induces Vav1 expression in human breast cancer cells. PLoS ONE 9: e99052.
8. Mu, L. and Ma, Y.Y. 2015. Expression of focal adhesion kinase in endometrial stromal cells of women with endometriosis was adjusted by ovarian steroid hormones. Int. J. Clin. Exp. Pathol. 8: 1810-1815.

RESEARCH USE

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