

Estrogen Receptor α (2Q418): sc-71064

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.

CHROMOSOMAL LOCATION

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

SOURCE

Estrogen Receptor α (2Q418) is a mouse monoclonal antibody raised against amino acids 495-595 of Estrogen Receptor α of bovine origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Estrogen Receptor α (2Q418) 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 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Estrogen Receptor α (2Q418) is also recommended for detection of Estrogen Receptor α in additional species, including bovine.

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/short isoform: 66/54 kDa.

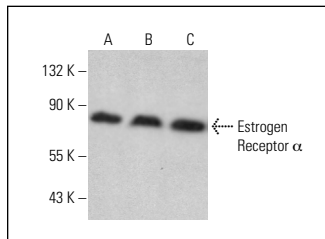
Molecular Weight of ER46/ER36: 48/36 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, MOLT-4 cell lysate: sc-2233 or Raji whole cell lysate: sc-364236.

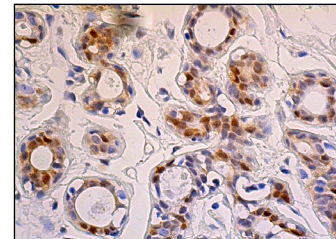
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Estrogen Receptor α (2Q418): sc-71064. Western blot analysis of Estrogen Receptor α expression in MCF7 nuclear extract (A) and MOLT-4 (B) and Raji (C) whole cell lysates.



Estrogen Receptor α (2Q418): sc-71064. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

- Adams, J.R., et al. 2011. Cooperation between Pik3ca and p53 mutations in mouse mammary tumor formation. *Cancer Res.* 71: 2706-2717.
- Hussain, I., et al. 2015. Bisphenol-A induces expression of HOXC6, an estrogen-regulated homeobox-containing gene associated with breast cancer. *Biochim. Biophys. Acta* 1849: 697-708.
- Deb, P., et al. 2016. Endocrine disrupting chemical, bisphenol-A, induces breast cancer associated gene HOXB9 expression *in vitro* and *in vivo*. *Gene* 590: 234-243.
- Lone, M.U., et al. 2017. Physical interaction of estrogen receptor with MnSOD: implication in mitochondrial O₂-upregulation and mTORC2 potentiation in estrogen-responsive breast cancer cells. *Oncogene* 36: 1829-1839.
- Alexander, B.H., et al. 2018. Stable density and dynamics of dendritic spines of cortical neurons across the estrous cycle while expressing differential levels of sensory-evoked plasticity. *Front. Mol. Neurosci.* 11: 83.
- Davaadelger, B., et al. 2019. BRCA1 mutation influences progesterone response in human benign mammary organoids. *Breast Cancer Res.* 21: 124.
- Lamas, C.A., et al. 2020. A jaboticaba extract prevents prostatic damage associated with aging and high-fat diet intake. *Food Funct.* 11: 1547-1559.
- Li, Q., et al. 2021. Dysmenorrhea in patients with adenomyosis: a clinical and demographic study. *J. Gynecol. Obstet. Hum. Reprod.* 50: 101761.

RESEARCH USE

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



See **Estrogen Receptor α (C-3): sc-514857** for Estrogen Receptor α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.