SANTA CRUZ BIOTECHNOLOGY, INC.

Estrogen Receptor α (C-311): sc-787

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.

CHROMOSOMAL LOCATION

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

SOURCE

Estrogen Receptor α (C-311) is a mouse monoclonal antibody raised against amino acids 495-595 of Estrogen Receptor α of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain 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-787 X, 200 µg/0.1 ml.

Estrogen Receptor α (C-311) is available conjugated to agarose (sc-787 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-787 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-787 PE), fluorescein (sc-787 FITC), Alexa Fluor® 488 (sc-787 AF488), Alexa Fluor® 546 (sc-787 AF546), Alexa Fluor® 594 (sc-787 AF594) or Alexa Fluor® 647 (sc-787 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-787 AF680) or Alexa Fluor® 790 (sc-787 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 (C-311) 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). ERα (C-311) is also recommended for detection of ERα in additional species, including bovine.

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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.

Estrogen Receptor α (C-311) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

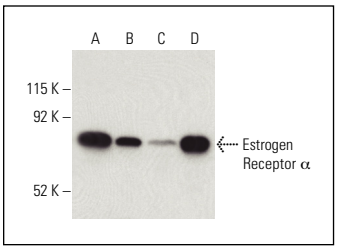
Molecular Weight of Estrogen Receptor α long isoform: 66 kDa.

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

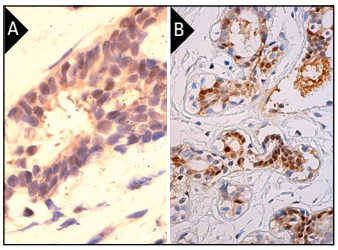
Molecular Weight of ER46: 48 kDa.

Molecular Weight of ER36: 36 kDa.

DATA



Estrogen Receptor α (C-311): sc-787. Western blot analysis of Estrogen Receptor α expression in ALL-SIL (**A**), BT-20 (**B**) and MDA-MB-435S (**C**) whole cell lysates and MCF7 nuclear extract (**D**). Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Estrogen Receptor α (C-311): sc-787. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lee, T.C., et al. 1997. Myc represses transcription of the growth arrest gene gas1. Proc. Natl. Acad. Sci. USA 94: 12886-12891.
2. Jiang, A., et al. 2020. Multilayer optical thin film design with deep Q learning. Sci. Rep. 10: 12780.

RESEARCH USE

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