

# ER $\beta$ (B-1): sc-390243

## BACKGROUND

Estrogen receptors (ER) are members of the steroid/thyroid hormone receptor superfamily of ligand-activated transcription factors. Estrogen receptors, including ER $\alpha$  and ER $\beta$ , 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 $\alpha$  and ER $\beta$  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 $\alpha$  and ER $\beta$  may be regulated by distinct mechanisms even though they share many functional characteristics.

## CHROMOSOMAL LOCATION

Genetic locus: ESR2 (human) mapping to 14q23.2; Esr2 (mouse) mapping to 12 C3.

## SOURCE

ER $\beta$  (B-1) is a mouse monoclonal antibody raised against amino acids 1-150 of ER $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> 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-390243 X, 200  $\mu$ g/0.1 ml.

ER $\beta$  (B-1) is available conjugated to either Alexa Fluor® 546 (sc-390243 AF546) or Alexa Fluor® 594 (sc-390243 AF594), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390243 AF680) or Alexa Fluor® 790 (sc-390243 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

ER $\beta$  (B-1) is recommended for detection of ER $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\beta$  siRNA (h): sc-35325, ER $\beta$  siRNA (m): sc-35326, ER $\beta$  siRNA (r): sc-77356, ER $\beta$  shRNA Plasmid (h): sc-35325-SH, ER $\beta$  shRNA Plasmid (m): sc-35326-SH, ER $\beta$  shRNA Plasmid (r): sc-77356-SH, ER $\beta$  shRNA (h) Lentiviral Particles: sc-35325-V, ER $\beta$  shRNA (m) Lentiviral Particles: sc-35326-V and ER $\beta$  shRNA (r) Lentiviral Particles: sc-77356-V.

ER $\beta$  (B-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

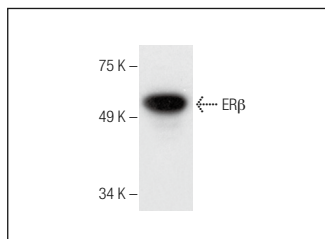
Molecular Weight of ER $\beta$ : 56 kDa.

Positive Controls: I-11.15 whole cell lysate: sc-364370.

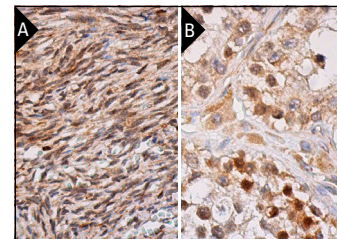
## STORAGE

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

## DATA



ER $\beta$  (B-1): sc-390243. Western blot analysis of ER $\beta$  expression in I-11.15 whole cell lysate.



ER $\beta$  (B-1): sc-390243. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of ovarian stroma cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).

## SELECT PRODUCT CITATIONS

- Comeglio, P., et al. 2014. Opposite effects of tamoxifen on metabolic syndrome-induced bladder and prostate alterations: a role for GPR30/GPER? *Prostate* 74: 10-28.
- Montt-Guevara, M.M., et al. 2015. Estetrol modulates endothelial nitric oxide synthesis in human endothelial cells. *Front. Endocrinol.* 6: 111.
- Wang, W., et al. 2016. Estrogen's effects on excitatory synaptic transmission entail integrin and TrkB transactivation and depend upon  $\beta$ 1-integrin function. *Neuropsychopharmacology* 41: 2723-2732.
- Chinigarzadeh, A., et al. 2017. Isoflavone genistein inhibits estrogen-induced chloride and bicarbonate secretory mechanisms in the uterus in rats. *J. Biochem. Mol. Toxicol.* E-published.
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- Wallner, C., et al. 2020. Regulatory aspects of myogenic factors GDF-8 and Follistatin on the intake of combined oral contraceptives. *Gynecol. Endocrinol.* 36: 406-412.
- Omori, M.A., et al. 2020. Effect of ovariectomy on maxilla and mandible dimensions of female rats. *Orthod. Craniofac. Res.* 23: 342-350.
- Kim, Y.S., et al. 2020. Novel medicine for endometriosis and its therapeutic effect in a mouse model. *Biomedicines* 8: 619.

## RESEARCH USE

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

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