SANTA CRUZ BIOTECHNOLOGY, INC.

p-ERα (Ser 106): sc-101674

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Estrogen receptor α (ERα, ER, ESR, ESRA, Era, NR3A1, estrogen receptor 1) is a ligand-activated transcription factor composed of several domains important for hormone binding, DNA binding and activation of transcription. Alternative splicing results in several ERα mRNA transcripts, which differ primarily in their 5' untranslated regions. ERα undergoes phosphorylation in response to estradiol binding. Human ERα is predominately phosphorylated on Ser 118 and, to a lesser extent, on Ser 104 and Ser 106. In response to activation of the mitogen-activated protein kinase pathway, phosphorylation occurs on Ser 118 and Ser 167. These serine residues are all located within the activation function 1 region of the N-terminal domain of ERα. In contrast, activation of protein kinase A increases the phosphorylation of Ser 236, which is located in the DNA-binding domain. Src kinase-dependent Tyr 537 phosphorylation may enhance estrogen binding to ERα. Mutation of Tyr 537 of the human ERα produces receptors having a range of constitutive activity.

REFERENCES

1. Arnold, S.F., et al. 1995. Phosphorylation of Tyrosine 537 on the human estrogen receptor is required for binding to an estrogen response element. J. Biol. Chem. 270: 30205-30212.
2. Weis, K.E., et al. 1996. Constitutively active human estrogen receptors containing amino acid substitutions for Tyrosine 537 in the receptor protein. Mol. Endocrinol. 10: 1388-1398.
3. Arnold, S.F., et al. 1997. Estradiol-binding mechanism and binding capacity of the human estrogen receptor is regulated by tyrosine phosphorylation. Mol. Endocrinol. 11: 48-53.
4. Joel, P.B., et al. 1998. pp90 Rsk-1 regulates estrogen receptor-mediated transcription through phosphorylation of Ser 167. Mol. Cell. Biol. 18: 1978-1984.

CHROMOSOMAL LOCATION

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

SOURCE

p-ERα (Ser 106) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 106 phosphorylated ERα of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

p-ERα (Ser 106) is recommended for detection of Ser 106 phosphorylated ERα of human origin and correspondingly phosphorylated Ser 110 of mouse 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ERα siRNA (h): sc-29305, ERα siRNA (m): sc-29306, ERα shRNA Plasmid (h): sc-29305-SH, ERα shRNA Plasmid (m): sc-29306-SH, ERα shRNA (h) Lentiviral Particles: sc-29305-V and ERα shRNA (m) Lentiviral Particles: sc-29306-V.

Molecular Weight of p-ERα long isoform: 66 kDa.

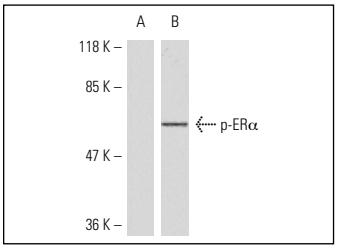
Molecular Weight of p-ERα short isoform: 54 kDa.

Molecular Weight of ER46: 48 kDa.

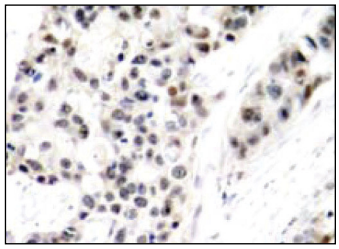
Molecular Weight of ER36: 36 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

DATA



p-ERα (Ser 106): sc-101674. Western blot analysis of phosphorylated ERα expression in untreated (**A**) and estradiol-treated (**B**) MCF7 whole cell lysates.



p-ERα (Ser 106): sc-101674. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wang, Y.C., et al. 2011. Estrogen suppresses metastasis in rat hepatocellular carcinoma through decreasing interleukin-6 and hepatocyte growth factor expression. Inflammation 35: 143-149.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.