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ESR1/ER Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13547c

Product Information

Application	IHC-P, WB, IF, E
Primary Accession	P03372
Other Accession	P06211, Q29040, P19785, P49884, NP_001116213.1, NP_000116.2, NP_001116214.1, NP_001116212.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Mouse, Pig, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33807
Calculated MW	66216
Antigen Region	246-273

Additional Information

Gene ID	2099
Other Names	Estrogen receptor, ER, ER-alpha, Estradiol receptor, Nuclear receptor subfamily 3 group A member 1, ESR1, ESR, NR3A1
Target/Specificity	This ESR1/ER antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 246-273 amino acids from the Central region of human ESR1/ER.
Dilution	IHC-P~~1:100~500 WB~~1:1000 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ESR1/ER Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ESR1

Synonyms	ESR, NR3A1
Function	Nuclear hormone receptor. The steroid hormones and their receptors are involved in the regulation of eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Ligand-dependent nuclear transactivation involves either direct homodimer binding to a palindromic estrogen response element (ERE) sequence or association with other DNA-binding transcription factors, such as AP-1/c-Jun, c-Fos, ATF-2, Sp1 and Sp3, to mediate ERE- independent signaling. Ligand binding induces a conformational change allowing subsequent or combinatorial association with multiprotein coactivator complexes through LXXLL motifs of their respective components. Mutual transrepression occurs between the estrogen receptor (ER) and NF-kappa-B in a cell-type specific manner. Decreases NF-kappa- B DNA-binding activity and inhibits NF-kappa-B-mediated transcription from the IL6 promoter and displace RELA/p65 and associated coregulators from the promoter. Recruited to the NF-kappa-B response element of the CCL2 and IL8 promoters and can displace CREBBP. Present with NF-kappa-B components RELA/p65 and NFKB1/p50 on ERE sequences. Can also act synergistically with NF-kappa-B to activate transcription involving respective recruitment adjacent response elements; the function involves CREBBP. Can activate the transcriptional activity of TFF1. Also mediates membrane-initiated estrogen signaling involving various kinase cascades. Essential for MTA1-mediated transcriptional regulation of BRCA1 and BCAS3 (PubMed:17922032). Maintains neuronal survival in response to ischemic reperfusion injury when in the presence of circulating estradiol (17-beta-estradiol/E2) (By similarity).
Cellular Location	[Isoform 1]: Nucleus {ECO:0000255|PROSITE- ProRule:PRU00407, ECO:0000269|PubMed:12682286, ECO:0000269|PubMed:20074560}. Cytoplasm. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=A minor fraction is associated with the inner membrane Nucleus. Golgi apparatus. Cell membrane. Note=Colocalizes with ZDHHC7 and ZDHHC21 in the Golgi apparatus where most probably palmitoylation occurs. Associated with the plasma membrane when palmitoylated
Tissue Location	Widely expressed (PubMed:10970861). Not expressed in the pituitary gland (PubMed:10970861)

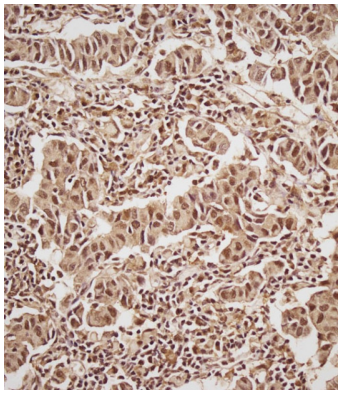
Background

This gene encodes an estrogen receptor, a ligand-activated transcription factor composed of several domains important for hormone binding, DNA binding, and activation of transcription. The protein localizes to the nucleus where it may form a homodimer or a heterodimer with estrogen receptor 2. Estrogen and its receptors are essential for sexual development and reproductive function, but also play a role in other tissues such as bone. Estrogen receptors are also involved in pathological processes including breast cancer, endometrial cancer, and osteoporosis. Alternative splicing results in several transcript variants, which differ in their 5' UTRs and use different promoters.

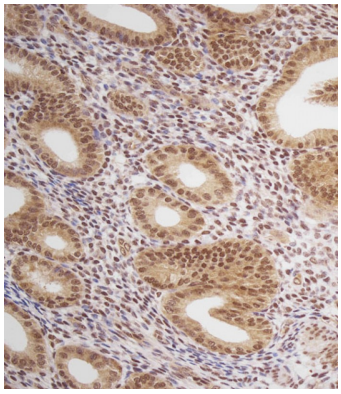
References

Geradts, J., et al. Cancer Invest. 28(9):969-977(2010)
Hayes, D.F., et al. Clin. Pharmacol. Ther. 88(5):626-629(2010)
Lupien, M., et al. Genes Dev. 24(19):2219-2227(2010)
Corbo, R.M., et al. J. Gerontol. A Biol. Sci. Med. Sci. (2010) In press :
Kim, S., et al. Fertil. Steril. (2010) In press :

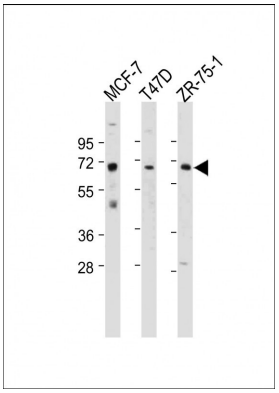
Images



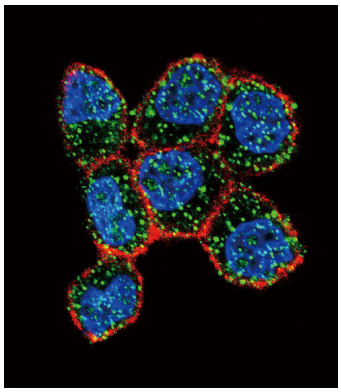
Immunohistochemical analysis of AP13547c on paraffin-embedded Human breast carcinoma tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:100) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunohistochemical analysis of AP13547c on paraffin-embedded Human uterus tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:100) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



All lanes : Anti-ESR1/ER Antibody (Center) at 1:2000 dilution Lane 1: MCF-7 whole cell lysate Lane 2: T47D whole cell lysate Lane 3: ZR-75-1 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 66 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Confocal immunofluorescent analysis of ESR1/ER Antibody (Center)(Cat#AP13547c) with ZR-75-1 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).

Citations

- Novel Three Dimensional Human Endocervix Cultures respond to 28-day hormone treatment.
- Pregnancy serum facilitates hepatitis E virus replication in vitro.
- Evaluation of the effect of the new methoxy-stilbenes on expression of receptors and enzymes involved in estrogen synthesis in cancer breast cells.
- β-Estradiol antagonizes the inhibitory effects of caffeine in BMMSCs via the ERβ-mediated cAMP-dependent PKA pathway.

- Human fallopian tube epithelium co-culture with murine ovarian follicles reveals crosstalk in the reproductive cycle.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.