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ER-alpha Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1040a

Product Information

Application	WB, IHC, E
Primary Accession	P03372
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2B7
Isotype	IgG1
Calculated MW	66216
Description	The estrogen receptor (ER) 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 ER mRNA transcripts, which differ primarily in their 5-prime untranslated regions. Two isoforms of the human ER, ERA and ER-beta, occur, each with distinct tissue and cell patterns of expression. Pelletier and El-Alfy (2000) studied the immunocytochemical localization of ESRA and ESRB in human reproductive tissues. In the ovary, ERB immunoreactivity was found in nuclei of granulosa cells of growing follicles at all stages from primary to mature follicles, interstitial gland, and germinal epithelium cells. Nuclear staining for ERA occurred in thecal, interstitial gland, and germinal epithelium cells. In the uterus, strong ERA immunoreactivity was detected in nuclei of epithelial, stromal, and muscle cells.
Immunogen	Purified recombinant fragment of human ER-alpha (410-592aa) expressed in E. Coli.
Formulation	Purified antibody in PBS containing 0.03% sodium azide.

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
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ER-alpha Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

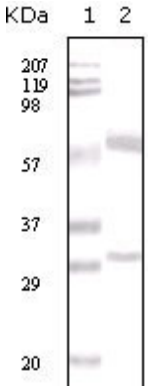
Name	ESR1
Synonyms	ESR, NR3A1
Function	Nuclear hormone receptor. The steroid hormones and their receptors are involved in the regulation of eukaryotic gene expression and affect cellular proliferation and differentiation in target tissues. Ligand-dependent nuclear transactivation involves either direct 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)

References

1. Paech K. Science 1997, 277: 1508- 10. 2. Pertschuk LP，Cancer, 1996. 199677: 514- 9.

Images

Figure 1: Western blot analysis using ER-alpha mouse mAb against human breast carcinoma tissue lysate.



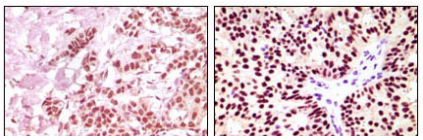


Figure 2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using ER-alpha mouse mAb showing nuclear expression with DAB staining.

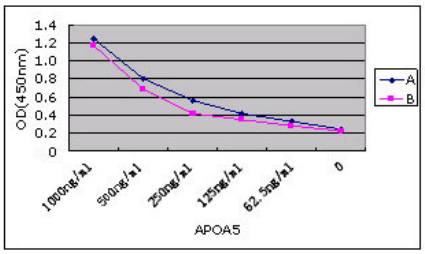


Figure 1: Sandwich ELISA using antibody pair to detect APOA5 protein.

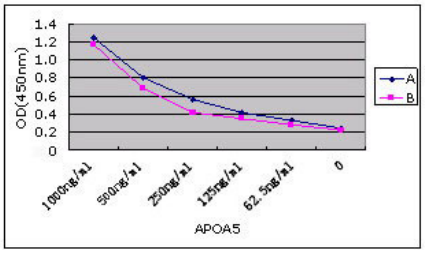


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