10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ESR1/ER Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM2006b

Product Information

Application	WB, E
Primary Accession	P03372
Other Accession	P06211, Q29040, P19785, P49884, NP_000116.2
Reactivity	Human
Predicted	Bovine, Mouse, Pig, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	415CT16.3.2.1
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 mice immunized with a KLH conjugated synthetic peptide between 246-273 amino acids from human ESR1/ER.
Dilution	WB~~1:500~1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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 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)

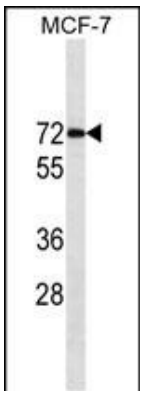
Background

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



ESR1/ER Antibody (Cat. #AM2006b) western blot analysis in MCF-7 cell line lysates (35µg/lane).This demonstrates the ESR1/ER antibody detected the ESR1/ER protein (arrow).