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Estrogen Receptor, alpha (Marker of Estrogen Dependence) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone ESR1/420]
Catalog # AH11191

Product Information

Application	WB, IF, FC
Primary Accession	P03372
Other Accession	2099, 208124
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2a
Clone Names	ESR1/420
Calculated MW	66216

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
Application Note	WB~~1:1000 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Estrogen Receptor, alpha (Marker of Estrogen Dependence) Antibody - With BSA and Azide 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 MAb is specific to ER alpha and shows minimal cross-reaction with other members of the family. Epitope of this MAb is mapped between aa300-550. ER is an important regulator of growth and differentiation in the mammary gland. Presence of ER in breast tumors indicates an increased likelihood of response to anti-estrogen (e.g. tamoxifen) therapy.

References

Zafrani B, et. al. Histopathology 2000; 37(6), 536–545. | Harvey JM, et. al. Journal of Clinical Oncology 1999; 17(5), 1474–1481