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ESR1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1451a

Specification

ESR1 Antibody - Product Information

Application	**WB, IHC, ICC, E**
Primary Accession	P03372
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**66kDa KDa**

Description
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.

Immunogen
Purified recombinant fragment of human ESR1 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

ESR1 Antibody - 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
ICC~~N/A
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
ESR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ESR1 Antibody - 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)

ESR1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ESR1 Antibody - Images

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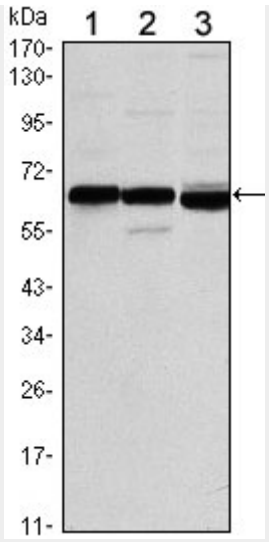

Figure 1: Western blot analysis using ESR1 mouse mAb against MCF-7 (1), T47D (2) and SKBR3 (3) cell lysate.

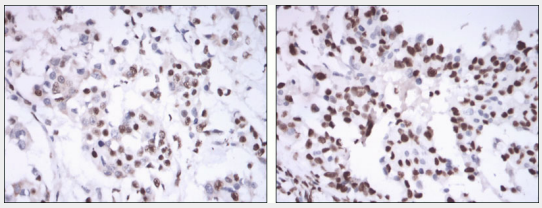

Figure 2: Immunohistochemical analysis of paraffin-embedded mammary cancer tissues using ESR1 mouse mAb with DAB staining.

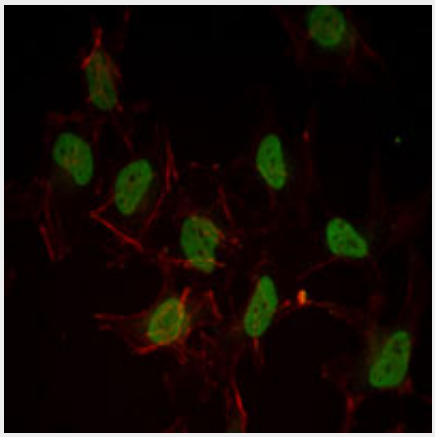

Figure 3: Immunofluorescence analysis of Hela cells using ESR1 mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

ESR1 Antibody - References

1. Calcif Tissue Int. 2010 Jul;87(1):25-35. 2. Arch Gynecol Obstet. 2010 Jun 18. 3. Biochemistry. 2010 Jul 27;49(29):5978-88.