

**ER-alpha Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1040a****Specification**

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**ER-alpha Antibody - Product Information**

Application	<b>WB, IHC, ICC</b>
Primary Accession	<a href="#">P03372</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>

**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.

**ER-alpha 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~~1:200~~1000

**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.

## ER-alpha 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:<a href="http://www.uniprot.org/citations/17922032" target="\_blank">17922032</a>). 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

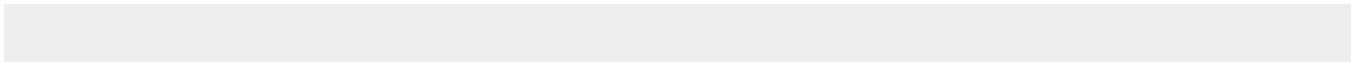
Widely expressed (PubMed:10970861). Not expressed in the pituitary gland (PubMed:10970861)

## ER-alpha 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 Cytometry](#)
- [Cell Culture](#)

## ER-alpha Antibody - Images



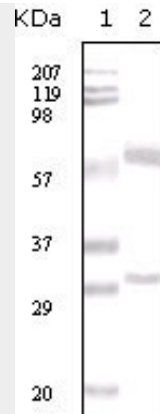


Figure 1: Western blot analysis using ER-alpha mouse mAb against human breast carcinoma tissue lysate.

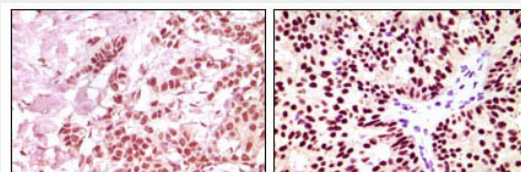


Figure 2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using ER-alpha mouse mAb showing nuclear expression with DAB staining.

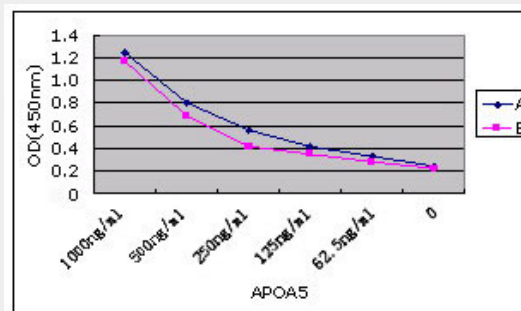


Figure 1: Sandwich ELISA using antibody pair to detect APOA5 protein.

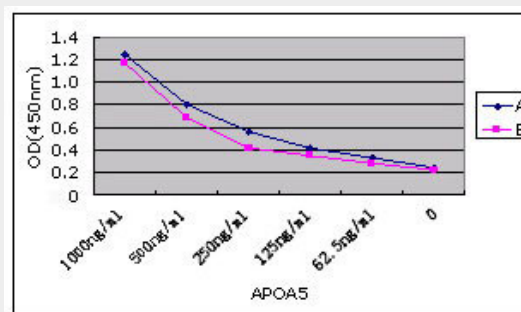


Figure 1: Sandwich ELISA using antibody pair to detect APOA5 protein.

**ER-alpha Antibody - References**

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