

**Mouse Monoclonal Antibody to ESR1**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2483a****Specification**

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**Mouse Monoclonal Antibody to ESR1 - Product Information**

Application	<b>E, WB, FC, ICC</b>
Primary Accession	<a href="#">P03372</a>
Reactivity	<b>Human, Rat</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>Mouse IgG1</b>
Calculated MW	<b>66.2kDa KDa</b>

**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. Alternative promoter usage and alternative splicing result in dozens of transcript variants, but the full-length nature of many of these variants has not been determined.;

**Immunogen**

Purified recombinant fragment of human ESR1 (AA: 2-185) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**Application Note**

ELISA: 1/10000; WB: 1/500 - 1/2000; IHC: 1/200 - 1/1000; ICC: 1/200 - 1/1000; FCM: 1/200 - 1/400

**Mouse Monoclonal Antibody to ESR1 - Additional Information**

**Gene ID** 2099

**Other Names**

ER; ESR; Era; ESRA; ESTRR; NR3A1

**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**

Mouse Monoclonal Antibody to ESR1 is for research use only and not for use in diagnostic or therapeutic procedures.

**Mouse Monoclonal Antibody to ESR1 - 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

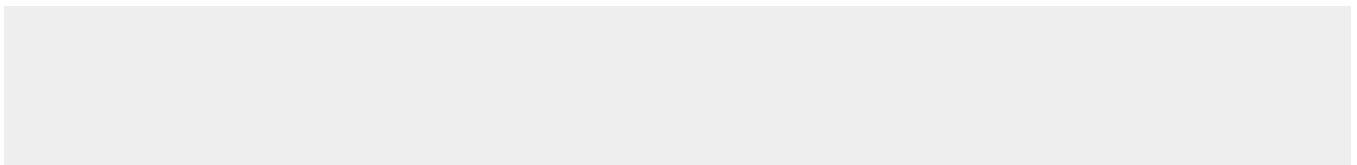
**Tissue Location**

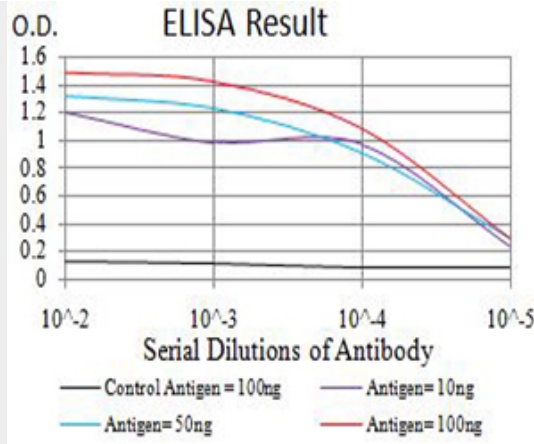
Widely expressed (PubMed:10970861). Not expressed in the pituitary gland (PubMed:10970861)

**Mouse Monoclonal Antibody to ESR1 - Protocols**

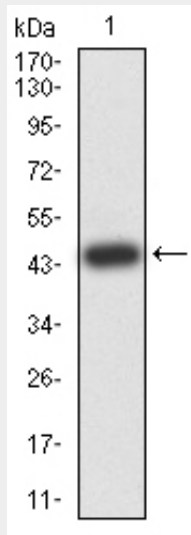
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

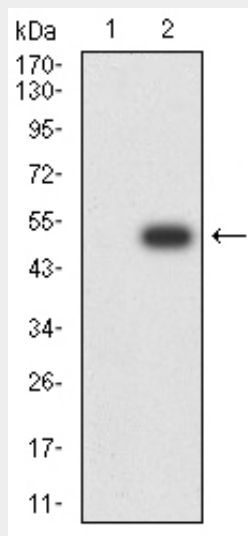
**Mouse Monoclonal Antibody to ESR1 - Images**



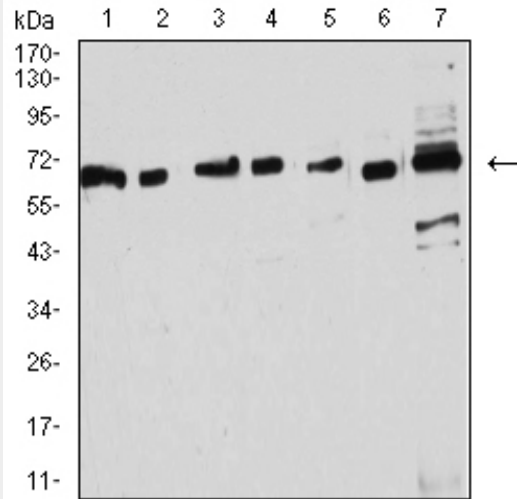
Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)



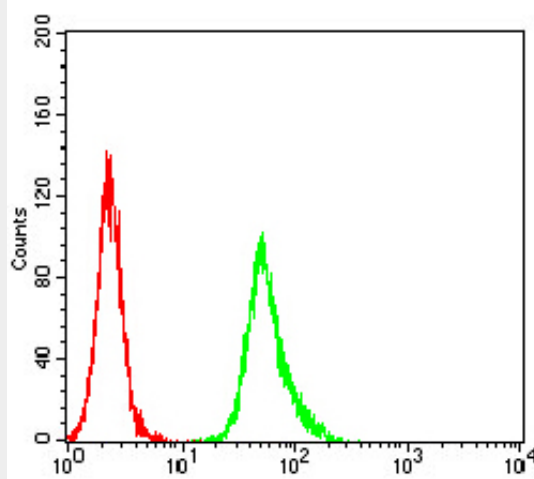
Western blot analysis using ESR1 mAb against human ESR1 (AA: 2-185) recombinant protein. (Expected MW is 45.8 kDa)



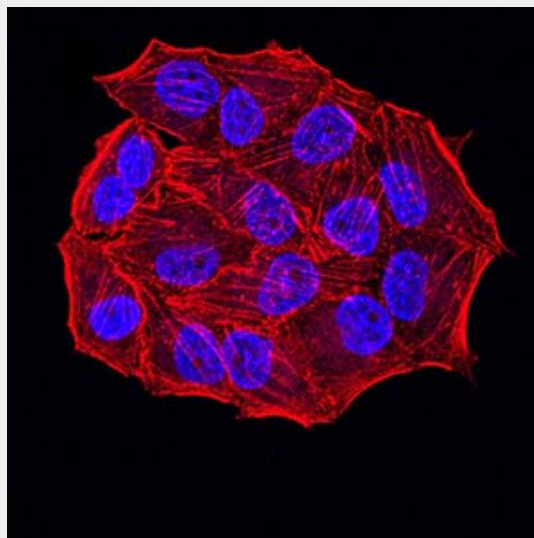
Western blot analysis using ESR1 mAb against HEK293 (1) and ESR1 (AA: 2-185)-hlgGfC transfected HEK293 (2) cell lysate.



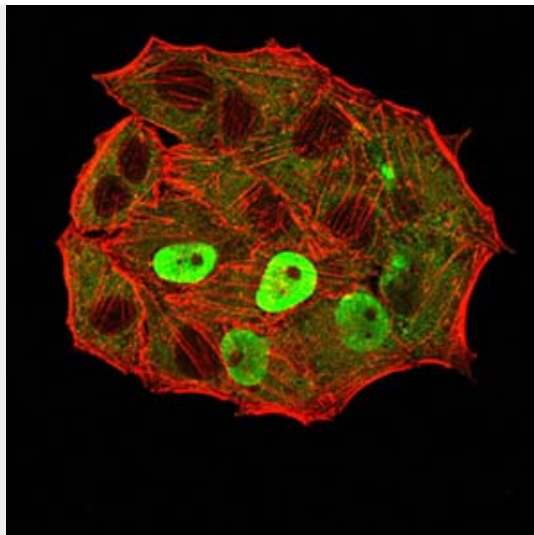
Western blot analysis using ESR1 mouse mAb against MOLT4 (1), Raji (2), MCF-7 (3), T47D (4), SK-Br-3 (5), HeLa (6), and C6 (7) cell lysate.



Flow cytometric analysis of HeLa cells using ESR1 mouse mAb (green) and negative control (red).



Immunofluorescence analysis of HeLa cells using ESR1 mouse mAb. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin.



Immunofluorescence analysis of HeLa cells using ESR1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher

#### **Mouse Monoclonal Antibody to ESR1 - References**

1.Tumour Biol. 2015 Aug;36(8):6349-59. ; 2.Breast Cancer Res. 2014 Dec 12;16(6):494.;