

**ESR1 Antibody**  
**Catalog # ASC11682****Specification**

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**ESR1 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">P03372</a>
Other Accession	<a href="#">NP_001116214</a> , <a href="#">170295804</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 65 kDa

Application Notes	Observed: 62 kDa KDa ESR1 antibody can be used for detection of ESR1 by Western blot at 1 - 2 µg/mL.
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**ESR1 Antibody - Additional Information**

Gene ID 2099

**Target/Specificity**

ESR1; ESR1 antibody is human, mouse and rat reactive.

**Reconstitution & Storage**

ESR1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**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:<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

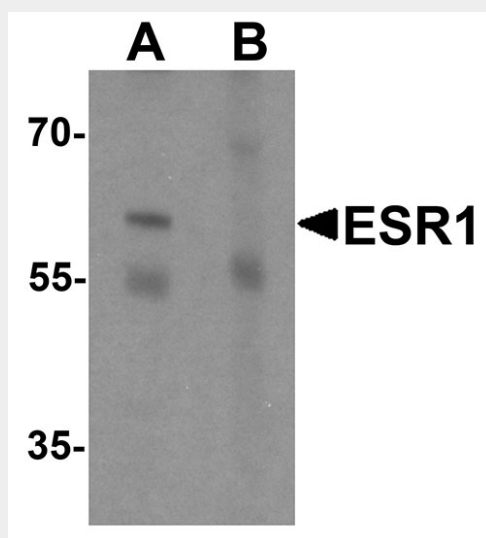
Widely expressed (PubMed:10970861). Not expressed in the pituitary gland (PubMed:10970861)

### ESR1 Antibody - Protocols

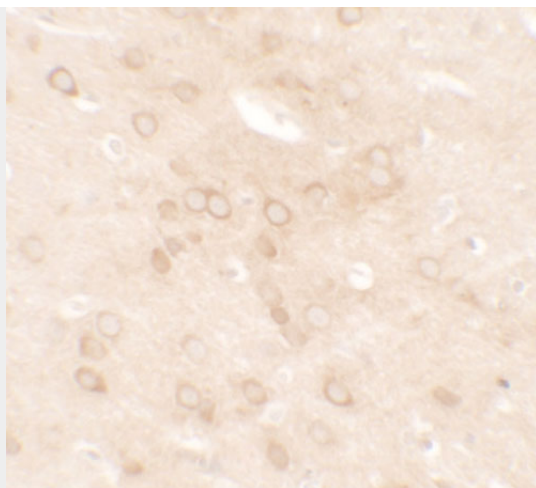
Provided below are standard protocols that you may find useful for product applications.

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

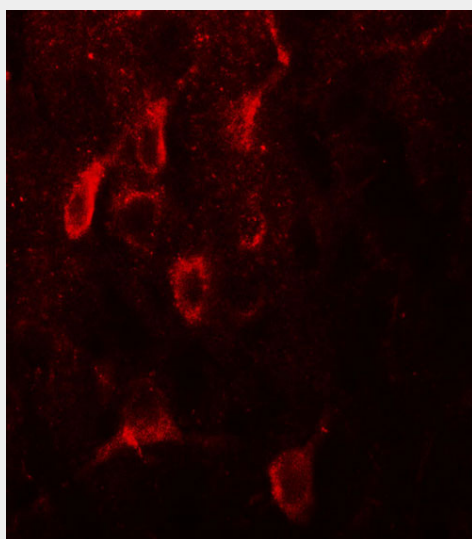
### ESR1 Antibody - Images



Western blot analysis of ESR1 in rat brain tissue lysate with ESR1 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of ESR1 in rat brain tissue with ESR1 antibody at 5 µg/mL.



Immunofluorescence of ESR1 in rat brain tissue with ESR1 antibody at 20 µg/mL.

### **ESR1 Antibody - Background**

ESR1 Antibody: Estrogen receptors (ER) are members of the steroid/thyroid hormone receptor superfamily of ligand-activated transcription factors (1). Estrogen receptors, including ESR1, also known as ER-alpha and ESR2 (ER-beta), contain DNA binding and ligand binding domains and are critically involved in regulating the normal function of reproductive tissues. ESR1 is a widely expressed nuclear protein and serves as a strong activator of estrogen responsive genes (1,2). Phosphorylation of serines 104 and 106, located in the N-terminal transcription activation function-1 domain (AF-1), plays a large role in regulating ER alpha activity (3).

### **ESR1 Antibody - References**

Pakdel F, Reese JC, and Katzenellenbogen BS. Identification of charged residues in an N- terminal portion of the hormone-binding domain of the human estrogen receptor important in transcriptional activity of the receptor. *Mol. Endocrinol.* 1993; 7:1408-17.  
Sheeler CQ, Singleton DW, and Khan SA. Mutation of serines 104, 106, and 118 inhibits dimerization of the human estrogen receptor in yeast. *Endocr. Res.* 2003; 29:237-55.  
Rogatsky I, Trowbridge JM, and Garabedian MJ. Potentiation of human estrogen receptor alpha transcriptional activation through phosphorylation of serines 104 and 106 by the cyclin A-CDK2 complex. *J. Biol. Chem.* 1999; 274:22296-302.

