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# ESR1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1451a

## Product Information

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| **Application** | WB, IHC, ICC, E |
| **Primary Accession** | P03372 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Clone Names** | 6B6 |
| **Isotype** | IgG1 |
| **Calculated MW** | 66216 |
| **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. |

## Additional Information

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| **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. |

## Protein Information

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| **Name** | ESR1 |

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| **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) |

## 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.

## Images

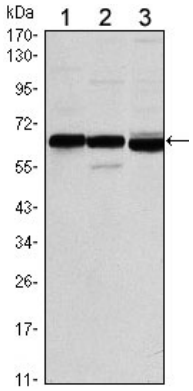



Figure 1: Western blot analysis using ESR1 mouse mAb against MCF-7 (1), T47D (2) and SKBR3 (3) cell lysate.

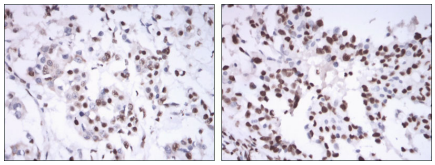


Figure 2: Immunohistochemical analysis of paraffin-embedded mammary cancer tissues using ESR1 mouse mAb with DAB staining.

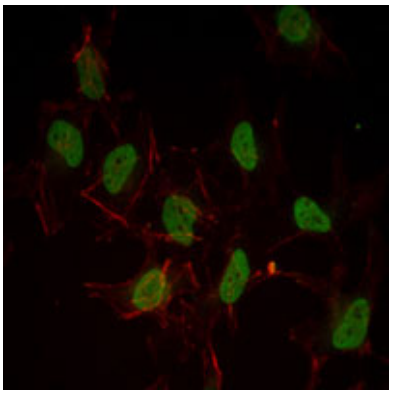


Figure 3: Immunofluorescence analysis of Hela cells using ESR1 mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.