

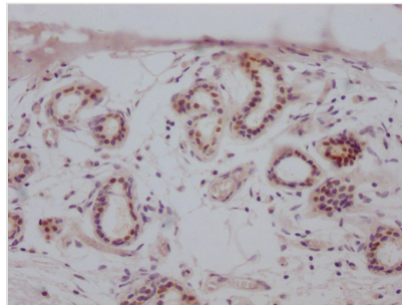


ESR1 Recombinant Monoclonal Antibody

Product Code	CSB-RA942338A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P03372
Immunogen	A synthesized peptide derived from human ER alpha
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	<p>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. Isoform 3 is involved in activation of NOS3 and endothelial nitric oxide production. Isoforms lacking one or several functional domains are thought to modulate transcriptional activity by competitive ligand or DNA binding and/or heterodimerization with the full length receptor. Essential for MTA1-mediated transcriptional regulation of BRCA1 and BCAS3. Isoform 3 can bind to ERE and inhibit isoform 1.</p>
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody



Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Neuroscience; Cancer; Signal transduction
Gene Names	ESR1
Clone No.	1C11

Image


IHC image of CSB-RA942338A0HU diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4^o overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The production of the ESR1 recombinant antibody includes four steps: sequencing the ESR1 monoclonal antibody gene, cloning the gene into a plasmid vector, introducing the recombinant vector into a host cell line, purifying the ESR1 recombinant monoclonal antibody from the cell culture supernatant using affinity chromatography, and testing and characterizing the purified antibody. The ESR1 monoclonal antibody is derived from the ESR1 antibody-producing hybridomas. During the production of the ESR1 monoclonal antibody, a synthesized peptide derived from human ESR1 is used as the immunogen. This ESR1 recombinant monoclonal antibody has been recommended for use in ELISA and IHC applications to detect human ESR1 protein.

The ESR1 protein plays a critical role in the regulation of gene expression in response to estrogen signaling. It is a transcription factor that binds to specific DNA sequences called estrogen response elements (EREs) in the regulatory regions of target genes. When estrogen binds to ESR1, it undergoes a conformational change that allows it to interact with co-activator proteins and recruit them to the EREs, resulting in the transcriptional activation of target genes. ESR1 is expressed in various tissues throughout the body and is particularly important in the female reproductive system, where it plays a central role in regulating the menstrual cycle, maintaining pregnancy, and promoting the development and function of the mammary gland. In addition to its physiological functions, ESR1 has been implicated in several diseases, including breast cancer, osteoporosis, and cardiovascular disease.