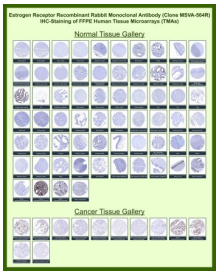
Estrogen receptor alpha Antibody for IHC / ER alpha [clone MSVA-564R] (V6071)

Catalog No.	Formulation	Size
V6071-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6071-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-564R
UniProt	P03372
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This Estrogen receptor alpha Antibody for IHC is available for research use only.



Estrogen receptor alpha / ER alpha Antibody for IHC. Immunohistochemistry of Estrogen Receptor antibody for IHC in human tissue microarrays. FFPE human normal and cancer tissues were stained with Estrogen Receptor recombinant rabbit monoclonal antibody clone MSVA-564R. Nuclear staining is observed in hormone-responsive epithelial cells, with strong nuclear positivity in breast epithelium and endometrial glands, including proliferative and secretory endometrium. Placental trophoblastic cells also demonstrate nuclear signal. Most non-hormone-dependent tissues such as skeletal muscle, liver, kidney cortex and medulla, pancreas, thyroid gland, and colon mucosa show little to no nuclear staining. In the cancer tissue gallery, strong nuclear staining is present in subsets of breast carcinoma and endometrioid ovarian carcinoma, while ER negative tumors including colorectal adenocarcinoma, renal cell carcinoma, squamous cell carcinoma of the oral cavity, and prostate adenocarcinoma show absent nuclear labeling. The staining pattern is predominantly nuclear, consistent with Estrogen Receptor alpha localization.

Description

Estrogen receptor alpha (ESR1) is a ligand-activated nuclear hormone receptor that regulates gene transcription in response to estrogen signaling and plays a central role in the growth and differentiation of hormone-responsive tissues. Estrogen receptor alpha Antibody for IHC is widely used to detect nuclear ESR1 expression in formalin-fixed, paraffin-embedded samples, where it serves as a key marker of hormone receptor status in tissue-based analysis. ESR1, also referred to as Estrogen receptor 1 in the literature, functions as a signal-dependent transcriptional regulator that converts estrogen binding into coordinated gene expression programs governing cellular proliferation, differentiation, and tissue organization.

In immunohistochemistry, Estrogen receptor alpha is characteristically observed as strong nuclear staining in epithelial cells of hormone-responsive tissues, including breast, uterus, and ovary, while most stromal and non-hormone-responsive cell types show minimal staining. This nuclear localization reflects its role as a transcription factor and provides clear contrast in tissue sections, making ESR1 a highly interpretable marker in histological analysis. Estrogen receptor alpha Antibody detection therefore supports evaluation of receptor distribution, cellular localization, and tissue-specific expression patterns.

Tissue microarray (TMA) analysis enables simultaneous assessment of Estrogen receptor alpha expression across a wide range of normal and cancer tissues, revealing consistent nuclear staining in hormone receptor-positive tumors, particularly in breast carcinoma. Variability in staining intensity and distribution across tumor samples reflects differences in receptor expression levels and cellular heterogeneity within the tumor microenvironment. Estrogen receptor alpha Antibody is therefore valuable for comparative tissue profiling and large-scale analysis of hormone receptor expression patterns. This antibody is part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Alterations in ESR1 expression and signaling are closely associated with changes in tissue differentiation and hormone responsiveness. In tumor tissues, nuclear ESR1 staining highlights populations of hormone-responsive epithelial cells and supports studies examining tumor classification and cellular phenotype. Evaluation of Estrogen receptor alpha at the tissue level provides insight into how estrogen signaling contributes to changes in cellular organization and disease-associated expression patterns.

Clone MSVA-564R is designed to recognize Estrogen receptor alpha in research applications. Estrogen receptor alpha Antibody reagents are suitable for detecting nuclear ESR1 expression in tissue sections and supporting studies focused on tissue distribution, tumor characterization, and hormone-responsive signaling in histological models.

For comprehensive detection of Estrogen receptor alpha across hormone signaling and breast cancer studies, see our Estrogen Receptor alpha antibody (clone ESR1/3557).

Application Notes

1. Optimal dilution of the recombinant Estrogen receptor alpha for IHC should be determined by the researcher.

2. This Estrogen receptor alpha / ER alpha antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 495-595) of human ER alpha protein (exact sequence is proprietary) was used as the immunogen for the recombinant Estrogen receptor alpha / ER alpha antibody.

Storage

Estrogen receptor alpha / ER alpha antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.