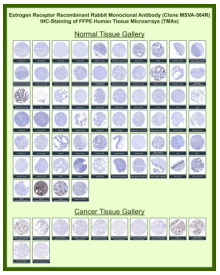
Estrogen receptor alpha Antibody for IHC / ER alpha [clone MSVA-564R] (V6071)

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 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Estrogen receptor alpha ESR1, also known as ER alpha, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal antibody clone MSVA-564R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates strong nuclear localization in hormone-responsive epithelial cells, including breast epithelium and endometrial glands across proliferative and secretory phases, as well as placental trophoblastic cells, while most non-hormone-dependent tissues such as skeletal muscle, liver, kidney, pancreas, thyroid, and colon mucosa show minimal to no staining. Within tumor tissue microarrays, strong nuclear positivity is observed in subsets of breast carcinoma and endometrioid ovarian carcinoma, whereas ER-negative tumors including colorectal adenocarcinoma, renal cell carcinoma, squamous cell carcinoma of the oral cavity, and prostate adenocarcinoma show absent nuclear labeling. Evaluation across large TMA panels enables direct comparison of ESR1 expression across diverse tissue types under standardized conditions. The observed staining patterns are consistent with nuclear localization of Estrogen receptor alpha and align with reported expression profiles in the Human Protein Atlas.

Description

Estrogen receptor alpha Antibody targets Estrogen receptor alpha, a hormone-responsive nuclear regulatory protein encoded by the ESR1 gene and also commonly referred to as Estrogen receptor 1 in the literature. ER alpha functions as a signal-dependent transcriptional regulator that converts estrogen binding into coordinated gene expression programs governing cellular proliferation, differentiation, and tissue organization. Its activity places Estrogen receptor alpha at the center of estrogen-responsive transcriptional signaling networks.

Upon ligand binding, Estrogen receptor alpha undergoes conformational changes that promote nuclear retention and recruitment of transcriptional co-regulators. ER alpha regulates gene expression through direct interaction with estrogen response elements as well as indirect mechanisms involving cooperation with other transcription factors. Estrogen receptor alpha Antibody detection therefore supports studies examining nuclear receptor activation states and estrogen-dependent transcriptional responsiveness.

ER alpha signaling is particularly prominent in hormone-regulated tissues such as breast, uterus, ovary, and endocrine-associated tissues, where Estrogen receptor 1 activity governs transcriptional programs linked to cell cycle control, tissue remodeling, and differentiation balance. Estrogen receptor alpha Antibody reagents are useful for investigating estrogen-driven gene regulation and hormone-responsive cellular behavior in tissue-based research models.

Dysregulation of Estrogen receptor alpha signaling alters transcriptional output and contributes to disease-associated changes in hormone responsiveness. Aberrant ER alpha activity can reshape gene expression patterns toward pathological cellular states characterized by altered growth and differentiation control. Studying Estrogen receptor 1 at the level of transcriptional regulation provides insight into how hormonal signaling disturbances influence cellular identity and disease biology.

Clone MSVA-564R is designed to recognize Estrogen receptor alpha in research applications. Estrogen receptor alpha Antibody reagents are suitable for detecting nuclear ER alpha expression and supporting studies focused on estrogen signaling dynamics, transcriptional regulation, and hormone-responsive gene expression programs.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

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.