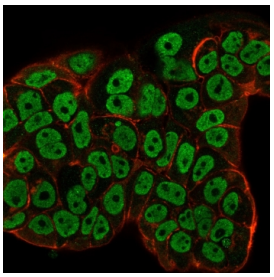
Estrogen Receptor alpha Antibody / ESR1 Hormone Receptor and Breast Cancer Marker Antibody [clone ESR1/3557] (V7564)

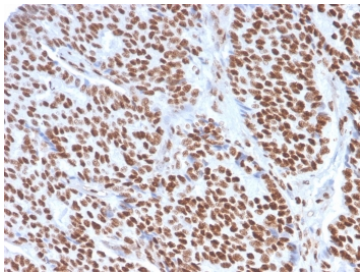
Catalog No.	Formulation	Size
V7564-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7564-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7564SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7564IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

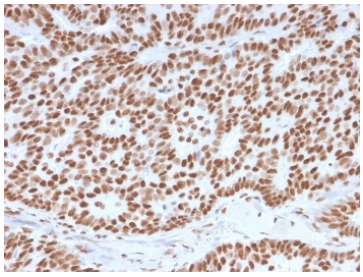
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	ESR1/3557
Purity	Protein G affinity chromatography
UniProt	P03372
Localization	Nucleus
Applications	Immunofluorescence: 1-2ug/ml Flow cytometry: 1-2ug/10^6 cells Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This Estrogen Receptor alpha Antibody / ESR1 Hormone Receptor and Breast Cancer Marker Antibody is available for research use only.



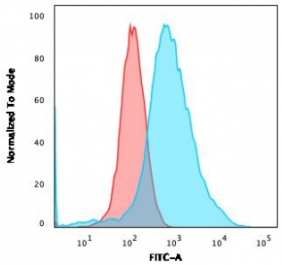
Estrogen Receptor alpha Antibody MCF7 Cell IF. Immunofluorescence analysis of Estrogen Receptor alpha antibody microarray validated clone ESR1/3557 in human MCF-7 cells. Formalin-fixed human MCF-7 breast carcinoma cells show strong nuclear green fluorescence using clone ESR1/3557, consistent with Estrogen Receptor alpha / ESR1 localization. Phalloidin (red) highlights actin filaments within the cytoskeleton. The nuclear staining pattern aligns with expected ER alpha distribution in hormone-responsive breast cancer cells.



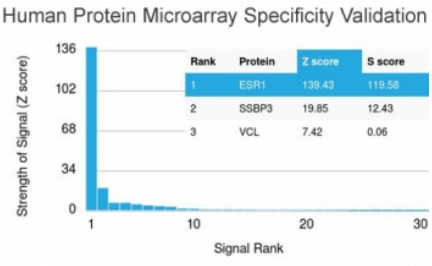
Estrogen Receptor alpha Antibody Breast Carcinoma IHC. Immunohistochemistry of FFPE human breast carcinoma tissue using Estrogen Receptor alpha antibody shows strong HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR1 expression in hormone-responsive breast cancer, while surrounding stromal cells display minimal background; detection was performed with clone ESR1/3557. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.



Estrogen Receptor alpha Antibody Human Breast Carcinoma Tissue IHC. Immunohistochemistry of FFPE human breast carcinoma tissue using Estrogen Receptor alpha antibody demonstrates strong HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR1 expression in hormone-responsive breast cancer, while surrounding stromal cells show minimal background; detection was performed with clone ESR1/3557. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min and allow to cool before testing.

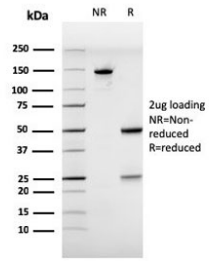


Estrogen Receptor alpha Antibody MCF7 Cell FACS. Flow cytometry testing of fixed and permeabilized human MCF-7 cells with Estrogen Receptor alpha antibody (clone ESR1/3557); Red=isotype control, Blue= Estrogen Receptor alpha antibody.

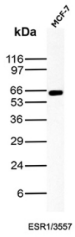


Human protein microarray specificity validation of Estrogen Receptor alpha antibody microarray validated clone ESR1/3557. Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins was performed using Estrogen Receptor alpha antibody clone ESR1/3557. The antibody demonstrates strongest binding to ESR1 with a Z-score of 139.43 and an S-score of 119.58, indicating clear separation from other proteins on the array. These results support the high specificity of clone ESR1/3557 for Estrogen Receptor alpha.

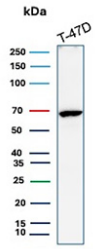
Z- and S-score explanation: The Z-score represents the strength of signal produced when the antibody, in combination with a fluorescently tagged anti-IgG secondary antibody, binds to a specific protein on the HuProt(TM) array. Z-scores are expressed in standard deviations above the mean signal generated across the array. Proteins are ranked in descending order based on Z-score. The S-score represents the difference in Z-scores between sequentially ranked proteins and reflects the relative specificity of the antibody for its intended target compared to potential off-target interactions.



SDS-PAGE analysis of purified, BSA-free Estrogen Receptor alpha antibody (clone ESR1/3557) as confirmation of integrity and purity.



Estrogen Receptor alpha Antibody MCF-7 WB. Western blot analysis of human MCF-7 cell lysate using Estrogen Receptor alpha antibody (clone ESR1/3557) detects a band at approximately 65-70 kDa, consistent with the predicted molecular weight of Estrogen receptor alpha (ESR1).



Estrogen Receptor alpha Antibody T-47D WB. Western blot analysis of human T-47D cell lysate using Estrogen Receptor alpha antibody (clone ESR1/3557) detects a band at approximately 65-70 kDa, consistent with the predicted molecular weight of Estrogen receptor alpha (ESR1), a nuclear hormone receptor expressed in hormone-responsive breast cancer cells.

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. ESR1 is widely expressed in breast epithelial cells and is a key driver of estrogen-dependent gene expression, controlling processes such as cellular proliferation, differentiation, and survival. Upon binding estrogen, ESR1 undergoes conformational changes that promote dimerization, nuclear localization, and interaction with estrogen response elements, leading to activation of downstream target genes.

Estrogen Receptor alpha antibody, also referred to as ESR1 antibody, ER alpha antibody, and ERa antibody in the literature, recognizes a nuclear receptor that is widely used as a biomarker in breast cancer research. ESR1 expression is a defining feature of hormone receptor-positive breast tumors, where it is used to classify tumor subtype and guide therapeutic decision-making. Detection of ESR1 is therefore critical for studying tumor biology, endocrine responsiveness, and resistance mechanisms associated with hormone-based therapies.

This Estrogen Receptor alpha Antibody / ESR1 Hormone Receptor and Breast Cancer Marker Antibody (clone ESR1/3557) is uniquely positioned for comprehensive analysis of ESR1 expression across multiple experimental systems. ESR1 is predominantly localized to the nucleus in epithelial and tumor cells, reflecting its role as a transcription factor, although dynamic redistribution can occur depending on signaling context. This antibody supports detection of ESR1 in tissue-based studies, cellular imaging, protein analysis, and single-cell assays, enabling integrated evaluation of receptor expression and function across diverse biological models.

In immunohistochemistry, ESR1 is typically observed as strong nuclear staining in hormone-responsive tissues and breast carcinoma samples, providing clear distinction between positive tumor cells and surrounding stromal compartments. In immunofluorescence, ESR1 localization is similarly nuclear, while flow cytometry applications require fixation and permeabilization for intracellular detection of the receptor. Western blot analysis typically reveals a band corresponding to the expected molecular weight of ESR1, supporting confirmation of protein expression across cell types

and treatment conditions.

Microarray validation of clone ESR1/3557 supports its specificity for the ESR1 protein, providing confidence in target recognition across a broad range of human proteins. As a mouse monoclonal antibody, clone ESR1/3557 offers reproducible performance for detecting Estrogen receptor alpha in research applications. An Estrogen Receptor alpha antibody is suitable for detecting ESR1 expression in studies of hormone signaling, breast cancer biology, and transcriptional regulation.

HER2 is commonly evaluated alongside this marker in epithelial tumors and breast cancer research; see our HER2 antibody page. This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Estrogen Receptor alpha Antibody / ESR1 Hormone Receptor and Breast Cancer Marker Antibody should be determined by the researcher.
1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A recombinant human ESR1 protein fragment within amino acids 129-312 was used as the immunogen for the Estrogen Receptor alpha antibody microarray validated clone ESR1/3557.

Storage

Store the Estrogen Receptor alpha antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Estrogen receptor alpha antibody, ESR1 antibody, ER alpha antibody, ERa antibody, ESR1 breast cancer marker antibody

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