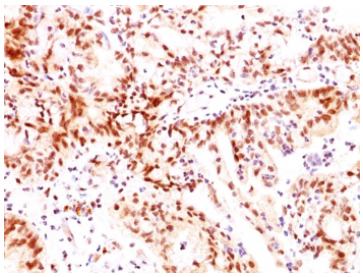
Estrogen Receptor beta Antibody / ESR2 Hormone Signaling and Tumor Modulation Marker Antibody [clone ERb455] (V2115)

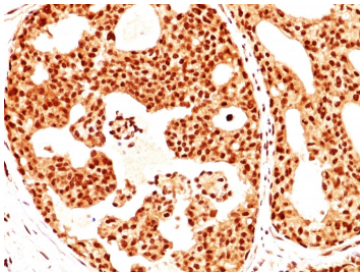
Catalog No.	Formulation	Size
V2115-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2115-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2115SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2115IHC-7ML	Prediluted 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

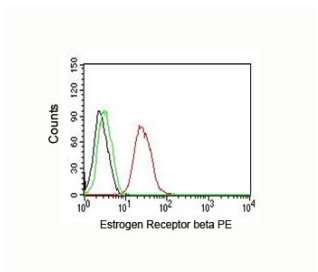
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	ERb455
Purity	Protein G purified monoclonal antibody
Gene ID	2100
Localization	Predominantly nuclear
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-2ug/10^6 cells Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Immunofluorescence: 1-2ug/ml
Limitations	This Estrogen Receptor beta Antibody / ESR2 Hormone Signaling and Tumor Modulation Marker Antibody is available for research use only.



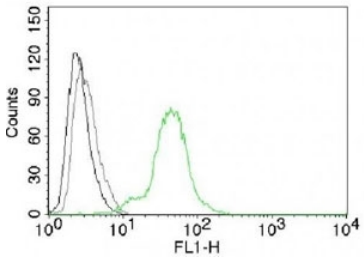
Estrogen Receptor beta Antibody Ovarian Cancer Tissue IHC. Immunohistochemistry of FFPE human ovarian carcinoma tissue using Estrogen Receptor beta antibody shows HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR2 expression in hormone-responsive ovarian cancer, while surrounding stromal regions display lower background; detection was performed with clone ERb455.



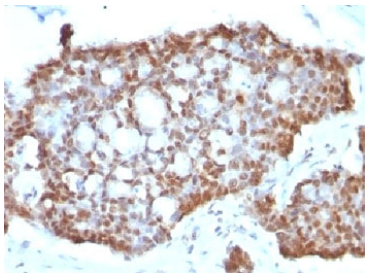
Estrogen Receptor beta Antibody Breast Cancer Tissue IHC. Immunohistochemistry of FFPE human breast carcinoma tissue using Estrogen Receptor beta antibody shows HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR2 expression in hormone-responsive breast cancer, while surrounding stromal elements display lower background; detection was performed with clone ERb455.



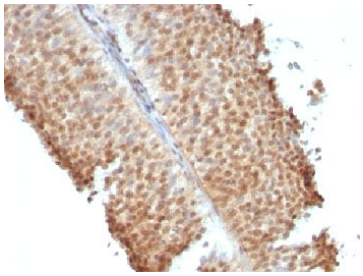
Estrogen Receptor beta Antibody MCF-7 FACS. Flow cytometry analysis of permeabilized human MCF-7 cells using Estrogen Receptor beta antibody shows a clear rightward shift in fluorescence intensity compared to cells alone (black) and isotype control (green), consistent with intracellular detection of ESR2; red histogram represents staining with the PE-conjugated Estrogen Receptor beta antibody (clone ERb455).



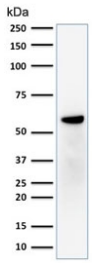
Estrogen Receptor beta Antibody BT474 FACS. Flow cytometry analysis of permeabilized human BT474 cells using Estrogen Receptor beta antibody shows a clear rightward shift in fluorescence intensity compared to cells alone (black) and isotype control (gray), consistent with intracellular detection of ESR2; green histogram represents staining with the AF488-conjugated Estrogen Receptor beta antibody (clone ERb455).



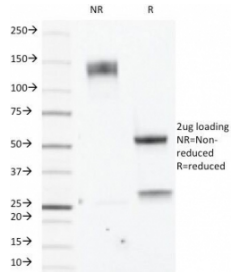
Estrogen Receptor beta Antibody Gastric Carcinoma IHC. Immunohistochemistry of FFPE human gastric carcinoma tissue using Estrogen Receptor beta antibody shows HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR2 expression in hormone-responsive gastric cancer, while adjacent stromal elements display lower background; detection was performed with clone ERb455.



Estrogen Receptor beta Antibody Bladder Carcinoma IHC. Immunohistochemistry of FFPE human bladder carcinoma tissue using Estrogen Receptor beta antibody shows HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with ESR2 expression in bladder cancer, while surrounding stromal regions display lower background; detection was performed with clone ERb455.



Estrogen Receptor beta Antibody Breast Cancer Cell Line WB. Western blot testing of human MCF7 cell lysate with Estrogen Receptor beta antibody (clone ERb455). Expected molecular weight: 53-59 kDa.



SDS-PAGE analysis of purified, BSA-free Estrogen Receptor beta antibody (clone ERb455) as confirmation of integrity and purity.

Description

Estrogen receptor beta (ESR2) is a ligand-activated nuclear hormone receptor that regulates gene transcription in response to estrogen signaling and plays a distinct role in modulating cellular proliferation, differentiation, and tissue homeostasis. ESR2 is expressed in a variety of tissues, including prostate, ovary, lung, and components of the immune and gastrointestinal systems, where it contributes to balanced hormone-responsive signaling. Unlike Estrogen receptor alpha (ESR1), which is strongly associated with proliferative signaling in breast epithelium, ESR2 is often linked to regulatory and context-dependent modulation of estrogen-driven gene expression.

Estrogen Receptor beta antibody, also referred to as ESR2 antibody, ER beta antibody, and ERb antibody in the literature, recognizes a nuclear receptor that functions as a transcriptional regulator of estrogen-responsive genes. ESR2 can form homodimers or heterodimers with ESR1, influencing transcriptional outcomes and fine-tuning hormone signaling pathways. This interplay between estrogen receptor isoforms contributes to differential regulation of gene expression programs governing cellular growth, differentiation, and apoptosis.

This Estrogen Receptor beta Antibody / ESR2 Hormone Signaling and Tumor Modulation Marker Antibody (clone ERb455) is uniquely positioned for research focused on hormone receptor biology and cancer-related signaling. ESR2 has been implicated in modulation of tumor behavior across multiple cancer types, where its expression is associated with altered cellular proliferation and differentiation states. In certain contexts, ESR2 signaling has been linked to restraint of estrogen-driven growth, highlighting its role in balancing proliferative signals mediated by ESR1. These properties make ESR2 an important target for studying hormone receptor interactions and their impact on tumor biology.

In tissue-based analyses, ESR2 is typically observed as nuclear staining in epithelial and stromal cell populations, consistent with its role as a transcription factor. Expression patterns can vary depending on tissue type and physiological context, providing insight into hormone responsiveness and cellular differentiation states. In cellular assays such as immunofluorescence and flow cytometry, ESR2 detection requires fixation and permeabilization to enable intracellular access to the nuclear receptor. Western blot analysis typically reveals a band corresponding to the expected molecular weight of ESR2, supporting confirmation of protein expression across experimental models.

Clone ERb455 is a mouse monoclonal antibody designed to detect Estrogen receptor beta with consistent performance in research applications and has been referenced in multiple peer-reviewed studies. An Estrogen Receptor beta antibody is suitable for detecting ESR2 expression in studies of hormone signaling, cancer biology, and transcriptional regulation where estrogen receptor balance and modulation are of interest.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Estrogen Receptor beta Antibody / ESR2 Hormone Signaling and Tumor Modulation Marker Antibody to be titered up or down for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes.
2. 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

The C-terminus fragment of recombinant human Estrogen Receptor beta protein was used as the immunogen for this antibody.

Storage

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

Alternate Names

Estrogen receptor beta antibody, ESR2 antibody, ER beta antibody, ERb antibody, ESR2 hormone signaling antibody

References (1)

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