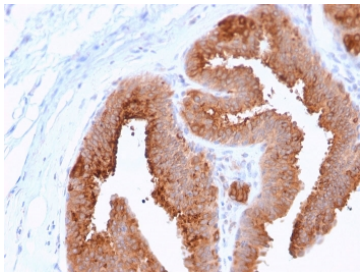
HER4 Antibody Protein Microarray Validated / ERBB4 [clone ERBB4/2581] (V7740)

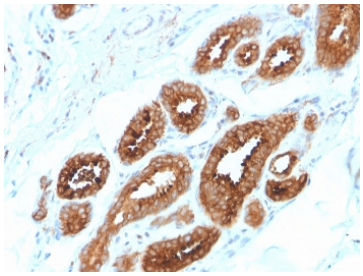
Catalog No.	Formulation	Size
V7740-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7740-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7740SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

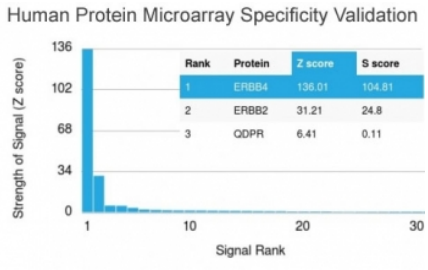
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	ERBB4/2581
Purity	Protein G affinity chromatography
UniProt	Q15303
Localization	Cytoplasmic, plasma membrane, nuclear
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This HER4 antibody is available for research use only.



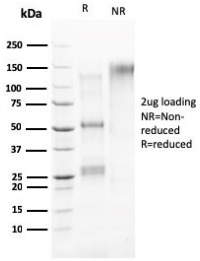
Immunohistochemistry of protein microarray validated HER4 antibody in human breast carcinoma tissue. FFPE human breast carcinoma sections were subjected to heat-induced epitope retrieval by boiling in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 minutes followed by cooling at room temperature prior to staining. The mouse monoclonal HER4 antibody clone ERBB4/2581 was used as the detecting antibody and is validated by protein microarray analysis. HRP-DAB brown staining is observed predominantly along the membranous and cytoplasmic compartments of tumor epithelial cells, while surrounding stromal elements show comparatively reduced background staining. The staining pattern is consistent with Erb-B2 receptor tyrosine kinase 4 expression in breast carcinoma tissue.



IHC staining of FFPE human breast carcinoma with protein microarray validated HER4 antibody (clone ERBB4/2581). HIER: boil tissue sections in 10mM Tris with 1mM EDTA, pH 9, for 10-20 min followed by cooling at RT prior to testing.



HuProt human protein microarray specificity analysis of HER4 antibody clone ERBB4/2581. The protein microarray validated monoclonal antibody was screened against more than 19,000 full-length human proteins. ERBB4 ranked as the top hit with the highest signal intensity, demonstrating strong target specificity relative to other proteins on the array.
Z-score represents the strength of the signal generated when the antibody, together with a fluorescently labeled anti-IgG secondary antibody, binds to a specific protein on the HuProt array. Z-scores are expressed in units of standard deviations above the mean signal of all proteins on the array. When proteins are ranked in descending order by Z-score, the S-score reflects the difference in standard deviations between adjacent ranked proteins. The S-score therefore indicates the relative specificity of the antibody for its intended target compared with other proteins on the array.



SDS-PAGE analysis of purified, BSA-free HER4 antibody (clone ERBB4/2581) as confirmation of integrity and purity.

Description

HER4 antibody recognizes Erb-B2 receptor tyrosine kinase 4, commonly referred to as HER4 and also known as ERBB4, a member of the epidermal growth factor receptor family of receptor tyrosine kinases. HER4 antibody, also referred to as ERBB4 antibody and ErbB4 antibody in the literature, detects a transmembrane receptor involved in cell proliferation, differentiation, and survival signaling. Clone ERBB4/2581 is produced as a mouse monoclonal antibody and provides defined monoclonal detection of HER4 protein expression in research applications.

HER4 belongs to the ERBB receptor family, which includes EGFR, HER2, and HER3. Upon binding to ligands such as neuregulins and other EGF-like growth factors, HER4 undergoes dimerization and autophosphorylation, activating downstream signaling pathways including PI3K-AKT, MAPK, and JAK-STAT cascades. These pathways regulate cellular growth, differentiation, and survival across multiple tissue types. Unlike some ERBB family members, HER4 can undergo proteolytic cleavage, releasing an intracellular domain that translocates to the nucleus and modulates gene transcription.

The ERBB4 gene is located on chromosome 2q34 and encodes multiple isoforms generated through alternative splicing. These isoforms differ in their cytoplasmic domain structure and signaling capacity, influencing tissue-specific functional outcomes. HER4 expression is observed in epithelial tissues, cardiac muscle, neural tissue, and mammary gland, where it contributes to developmental processes and tissue homeostasis.

Dysregulation of HER4 signaling has been implicated in breast cancer, ovarian cancer, and other malignancies. Depending on isoform context and cellular environment, HER4 has been reported to exhibit either oncogenic or differentiation-associated roles. Evaluation of HER4 expression patterns is therefore important in cancer biology and

growth factor signaling research.

This HER4 antibody has been validated using protein microarray technology, supporting its specificity for ERBB4 among related protein targets. The mouse monoclonal clone ERBB4/2581 is suitable for research applications focused on receptor tyrosine kinase signaling, tumor biology, and ERBB pathway analysis.

Application Notes

Optimal dilution of the HER4 antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 1116-1269) was used as the immunogen for the protein microarray validated HER4 antibody.

Storage

Store the HER4 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).