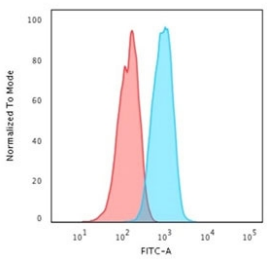
HER2/ErbB2 Antibody [clone HRB2/718] (V2111)

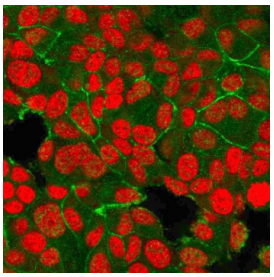
Catalog No.	Formulation	Size
V2111-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2111-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2111SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

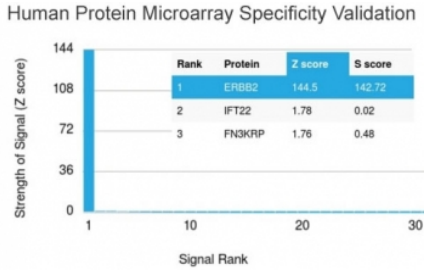
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	HRB2/718
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
Gene ID	2064
Localization	Extracellular/Intracellular cell membrane
Applications	ELISA : order BSA/sodium azide-free format for coating Flow Cytometry : 1-2ug/million cells Immunofluorescence : 0.5-1ug/ml
Limitations	This **HER2/ErbB2 antibody** is available for research use only.



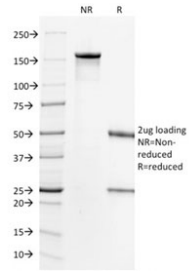
Flow cytometry testing of human MCF7 cells with HER2/ErbB2 antibody (clone HRB2/718); Red=isotype control, Blue= HER2/ErbB2 antibody.



Immunofluorescent staining of PFA-fixed human MCF7 cells with HER2/ErbB2 antibody (clone HRB2/718, green) and Reddot nuclear stain (red).



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using HER2/ErbB2 antibody (clone HRB2/718). These results demonstrate the foremost specificity of the HRB2/718 mAb.Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



SDS-PAGE analysis of purified, BSA-free HER2/ErbB2 antibody (clone HRB2/718) as confirmation of integrity and purity.

Description

HER2/ErbB2 antibody detects Receptor tyrosine-protein kinase erbB-2, a transmembrane receptor belonging to the epidermal growth factor receptor (EGFR/ERBB) family. The UniProt recommended name is Receptor tyrosine-protein kinase erbB-2 (ERBB2). Commonly known as HER2, this receptor is a critical regulator of cell growth, survival, and differentiation, and its amplification or overexpression is a well-established driver in multiple cancers, particularly breast and gastric carcinomas.

Functionally, HER2/ErbB2 antibody identifies a 1,255-amino-acid single-pass membrane glycoprotein that lacks a known ligand but forms heterodimers with other EGFR family members such as EGFR, ERBB3, and ERBB4. These heterodimers initiate strong intracellular signaling through the MAPK, PI3K/AKT, and JAK/STAT pathways, promoting cell proliferation and resistance to apoptosis. HER2 localization at the plasma membrane enables signal amplification and crosstalk with integrins and other receptor systems, integrating growth and adhesion cues crucial for tumor progression.

The ERBB2 gene is located on chromosome 17q12 and is expressed in epithelial cells of the heart, lungs, and gastrointestinal tract. Under normal physiological conditions, HER2 contributes to embryonic development and cardiac function. However, genomic amplification or protein overexpression results in constitutive activation of downstream signaling, driving oncogenic transformation and tumor growth. HER2 overexpression is found in approximately 20Ã¢Â€Â“30% of breast cancers and is also implicated in ovarian, gastric, and colorectal cancers.

Pathologically, HER2 serves as both a diagnostic biomarker and therapeutic target. Overexpression or gene amplification predicts responsiveness to HER2-targeted therapies such as trastuzumab, pertuzumab, and lapatinib. HER2 immunohistochemical detection is routinely used in clinical diagnostics to guide treatment strategies and prognosis. Research using HER2 ErbB2 antibody supports studies in receptor signaling, oncogenesis, and targeted therapy development.

HER2/ErbB2 antibody is validated for use in relevant research applications to detect HER2/ERBB2 expression and investigate receptor-mediated signaling in cancer and normal tissue models. NSJ Bioreagents provides HER2 ErbB2 antibody reagents optimized for studies in tumor biology, receptor tyrosine kinase signaling, and therapeutic antibody validation.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the antibody to be titered up or down for optimal performance.

1. This HER2/ErbB2 antibody binds to the extracellular/cell surface region of the protein.

Immunogen

Recombinant human HER2 protein was used as the immunogen for this antibody.(1) Its epitope is localized in the extracellular domain.

Storage

Store the HER2/ErbB2 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

p185, CD340, Verb b2 Erythroblastic Leukemia Viral Oncogene Homolog 2, ErbB2 antibody, Neuro/Glioblastoma Derived Oncogene Homolog, HER2 antibody

References (3)