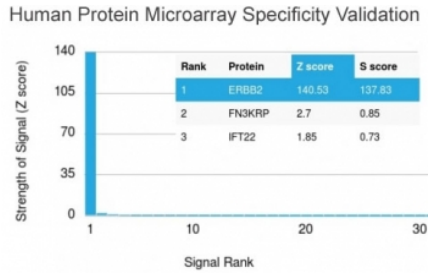
HER2/ErbB2 Antibody [clone HRB2/282] (V2110)

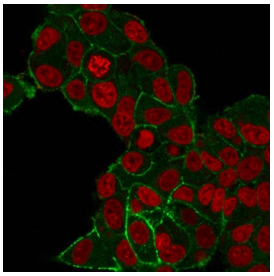
Catalog No.	Formulation	Size
V2110-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2110-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2110SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

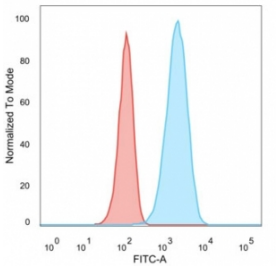
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	HRB2/282
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
Gene ID	2064
Localization	Extracellular/Intracellular cell membrane (this mAb is binds to the extracellular portion of the protein)
Applications	ELISA : order BSA/sodium azide-free format for coating Flow Cytometry : 0.5-1ug/million cells Immunofluorescence : 0.5-1ug/ml
Limitations	This **HER2/ErbB2 antibody** is available for research use only.



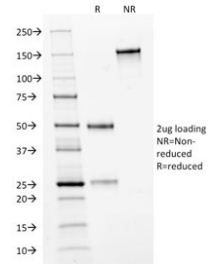
Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using HER2/ErbB2 antibody (clone HRB2/282). These results demonstrate the foremost specificity of the HRB2/282 mAb.Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination 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.



Immunofluorescent staining of PFA-fixed human MCF7 cells with HER2/ErbB2 antibody (clone HRB2/282, green) and Reddot nuclear stain (red).



Flow cytometry testing of PFA-fixed human MCF7 cells with HER2/ErbB2 antibody (clone HRB2/282); Red=isotype control, Blue= HER2/ErbB2 antibody.



SDS-PAGE analysis of purified, BSA-free HER2/ErbB2 antibody (clone HRB2/282) as confirmation of integrity and purity.

Description

HER2/ErbB2 antibody detects the Receptor tyrosine-protein kinase erbB-2, a member of the epidermal growth factor receptor (EGFR) family that functions as a key regulator of cell proliferation and survival. The UniProt recommended name is Receptor tyrosine-protein kinase erbB-2 (ERBB2). Commonly referred to as HER2, this transmembrane receptor tyrosine kinase is frequently amplified or overexpressed in several human cancers, where it drives aggressive tumor growth and poor prognosis.

Functionally, HER2 ErbB2 antibody recognizes a 185 kDa membrane glycoprotein that mediates signal transduction through heterodimerization with other ERBB family members, including EGFR, ERBB3, and ERBB4. These heterodimers activate downstream signaling cascades such as PI3K/AKT, MAPK/ERK, and JAK/STAT, promoting cellular growth, survival, and motility. Unlike other ERBB receptors, HER2 does not bind ligand directly but serves as a preferred dimerization partner, amplifying signaling intensity in both normal and malignant cells.

The ERBB2 gene is mapped to chromosome 17q12 and is normally expressed at low levels in epithelial tissues including the mammary gland, lung, and gastrointestinal tract. Under physiological conditions, HER2 contributes to development,

differentiation, and cardiac muscle maintenance. When amplified, however, ERBB2 becomes oncogenic, producing sustained activation of mitogenic and anti-apoptotic pathways. Overexpression occurs in approximately one-quarter of breast cancers and is also found in gastric, ovarian, and endometrial tumors.

Clinically, HER2 serves as a critical biomarker for diagnosis and targeted therapy selection. HER2 status is routinely assessed by immunohistochemistry or fluorescence in situ hybridization (FISH) to determine eligibility for HER2-targeted treatments such as trastuzumab, pertuzumab, and lapatinib. Elevated HER2 expression correlates with increased tumor aggressiveness but also with enhanced responsiveness to HER2-directed therapy. Research using HER2 ErbB2 antibody supports investigations in oncogenic signaling, receptor trafficking, and targeted drug response.

HER2/ErbB2 antibody is validated for use in relevant research applications to examine receptor expression and activation mechanisms in tumor and epithelial models. NSJ Bioreagents provides HER2/ErbB2 antibody reagents optimized for studies in cancer signaling, growth factor receptor biology, and therapeutic antibody research.

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)