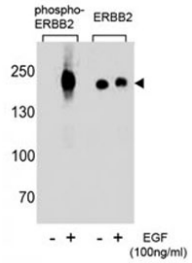
Phospho-ErbB2 (pY1248) Antibody / Receptor Activation Marker (F48395)

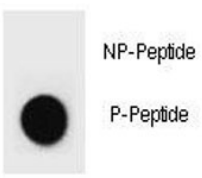
Catalog No.	Formulation	Size
F48395-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F48395-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P04626
Applications	Western blot: 1:8000 Dot blot: 1:500
Limitations	This Phospho-ErbB2 (pY1248) Antibody / Receptor Activation Marker is available for research use only.



Phospho-ErbB2 (pY1248) Antibody EGF-Stimulated WB. Western blot analysis of human A431 cell lysates treated with or without EGF (100 ng/ml) using Phospho-ErbB2 (pY1248) Antibody demonstrates a strong band at approximately 185 kDa in EGF-stimulated samples, consistent with the predicted molecular weight of phosphorylated ErbB2 / HER2, while untreated samples show minimal signal; parallel blotting with a non-phospho ErbB2 antibody confirms total receptor presence across conditions, highlighting phosphorylation-dependent activation at Tyr1248.



Phospho-ErbB2 (pY1248) Antibody Dot Blot Specificity. Dot blot analysis of Phospho-ErbB2 (pY1248) Antibody demonstrates strong signal for the phosphorylated peptide and no detectable binding to the corresponding non-phosphorylated peptide, confirming phospho-specific recognition of ErbB2 / HER2 at Tyr1248. Approximately 50 ng of phospho-peptide or non-phospho peptide was applied per spot.

Description

ErbB2 receptor tyrosine kinase 2 (ERBB2), also known as HER2, is a transmembrane receptor that plays a central role in regulating cell proliferation, survival, and differentiation through activation of intracellular signaling pathways. Phospho-ErbB2 (pY1248) antibody, also referred to as phospho-HER2 antibody and phospho-ERBB2 antibody in the literature, is designed to detect phosphorylation at tyrosine 1248, one of the most widely studied and functionally important sites associated with HER2 activation. Additional HER2 phosphorylation sites can be analyzed using phospho-specific antibodies targeting residues such as pY1221 (signaling docking), pY1222 (signal propagation), and pY1112 (adaptor recruitment).

Phosphorylation at Y1248 occurs following receptor dimerization and activation of the intrinsic tyrosine kinase domain. This modification is closely associated with activation of downstream signaling pathways such as PI3K/AKT and MAPK, which regulate cell growth, survival, and metabolic adaptation. Because of this, phosphorylation at Y1248 is widely used as a direct indicator of active HER2 signaling. Detection of this site allows researchers to distinguish between inactive receptor pools and signaling-competent receptor populations, which is critical when studying pathway dynamics.

HER2 signaling is particularly relevant in cancer biology, where ERBB2 amplification leads to elevated receptor expression and increased signaling output. In breast carcinoma and other HER2-positive tumors, phosphorylation at Y1248 correlates with enhanced pathway activation, increased proliferation, and aggressive tumor behavior. Monitoring this phosphorylation event provides insight into signaling status and therapeutic response, especially in experimental systems evaluating pathway inhibition.

Structurally, Y1248 is located within the intracellular kinase domain of HER2 and functions as part of a coordinated phosphorylation network. Nearby residues such as Y1221 and Y1222 contribute to recruitment of adaptor proteins and early signaling events, while Y1248 reflects overall receptor activation status. This makes Y1248 one of the most reliable and widely used sites for assessing HER2 signaling activity.

Phosphorylation of HER2 is not static and is regulated dynamically in response to cellular conditions, including growth factor availability, receptor dimerization, and cellular stress. Detection of phosphorylated ERBB2 at Y1248 therefore provides a snapshot of signaling activity at a given time, enabling researchers to study pathway activation in response to experimental manipulation or disease progression.

Phospho-specific detection of ERBB2 at Y1248 enables precise analysis of signaling pathways in both normal and pathological contexts. This approach complements total HER2 detection and provides a more complete understanding of receptor function, activation status, and signaling output.

For a full selection of HER2 antibodies for research applications, see our HER2 antibody page.

Application Notes

Titration of the Phospho-ErbB2 (pY1248) Antibody / Receptor Activation Marker may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

This p-ErbB2 antibody was produced from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding pY1248 of human HER2/ErbB2.

Storage

Aliquot the p-ErbB2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Phospho-ErbB2 antibody pY1248, phospho-HER2 antibody Tyr1248, ERBB2 pY1248 antibody, HER2 activation antibody, phospho HER2 Tyr1248

Copyright © NSJ Bioreagents. All rights reserved.