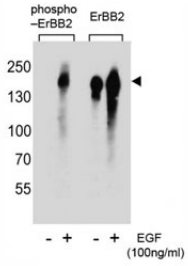
Phospho-ErbB2 (pY1005) Antibody / Early Signaling Site (F48698)

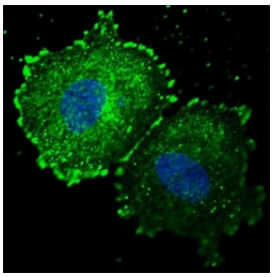
Catalog No.	Formulation	Size
F48698-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F48698-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

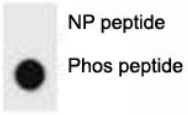
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P04626
Applications	Western Blot : 1:1000 Immunofluorescence : 1:100 Dot Blot : 1:500
Limitations	This Phospho-ErbB2 (pY1005) Antibody / Early Signaling Site is available for research use only.



Phospho-ErbB2 (pY1005) Antibody EGF-Stimulated WB. Western blot analysis of human A431 cell lysates treated with or without EGF (100 ng/ml) using Phospho-ErbB2 (pY1005) Antibody detects a band at approximately 185 kDa in EGF-stimulated samples, consistent with the predicted molecular weight of phosphorylated ErbB2 / HER2, while untreated samples show reduced signal; parallel detection with a nonphospho ErbB2 antibody confirms total receptor expression across conditions, supporting phosphorylation-dependent early signaling at Tyr1005.



Phospho-ErbB2 (pY1005) Antibody MCF-7 IF. Immunofluorescence analysis of MCF-7 cells using Phospho-ErbB2 (pY1005) Antibody (green) demonstrates prominent membranous staining outlining the cell periphery with additional diffuse and punctate cytoplasmic signal, consistent with phosphorylated ErbB2 / HER2 localization during early signaling, while nuclei are counterstained blue.



Phospho-ErbB2 (pY1005) Antibody Dot Blot Specificity. Dot blot analysis of Phospho-ErbB2 (pY1005) 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 Tyr1005. 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 regulates cell proliferation, survival, and differentiation through activation of intracellular signaling pathways. Phospho-ErbB2 (pY1005) antibody, also referred to as phospho-HER2 antibody and phospho-ERBB2 antibody in the literature, detects phosphorylation at tyrosine 1005, a residue located within the intracellular domain of HER2 that contributes to early signaling events following receptor activation.

Phosphorylation of HER2 occurs at multiple tyrosine residues that collectively coordinate receptor-mediated signaling. Y1005 is positioned within the proximal intracellular region of HER2 and participates in the early stages of signal transduction, prior to full pathway amplification. This makes it useful for monitoring initial receptor engagement and the onset of intracellular signaling cascades.

Upon receptor activation, HER2 undergoes conformational changes and autophosphorylation at multiple sites, creating docking points for downstream signaling components. While major residues such as Y1221, Y1222, and Y1248 are strongly associated with signal propagation and activation, phosphorylation at Y1005 reflects an earlier stage in this process, where signaling pathways begin to be engaged but are not yet fully amplified.

HER2 signaling plays a central role in cancer biology, particularly in tumors characterized by ERBB2 amplification such as breast carcinoma. In these contexts, phosphorylation at residues including Y1005 is associated with activation of receptor-driven signaling that supports tumor cell proliferation and survival. Detection of phosphorylation at this site provides insight into early signaling dynamics and receptor activation status.

Y1005 functions within a broader phosphorylation network that includes residues such as Y1112, Y1139, Y1221, Y1222, and Y1248. Together, these sites regulate the progression of HER2 signaling from initiation through propagation to sustained activation. Analysis of Y1005 phosphorylation complements detection of these other sites and contributes to a more complete understanding of HER2 signaling behavior.

Phospho-specific detection of ERBB2 at Y1005 enables investigation of early receptor activation and signaling initiation. This supports studies focused on receptor engagement, pathway onset, and early cellular responses in both normal and disease contexts.

For detection of activated HER2 phosphorylation, see our HER2 phospho antibody (pY1248).

Application Notes

Titration of the Phospho-ErbB2 (pY1005) Antibody / Early Signaling Site may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

This Phospho-ErbB2 (pY1005) Antibody was produced from rabbits immunized with a KLH conjugated synthetic phospho-peptide corresponding to amino acid residues surrounding pY1005 of human ERBB2.

Storage

Aliquot the Phospho-ErbB2 (pY1005) Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Phospho-ErbB2 (pY1005) antibody, phospho-HER2 Tyr1005 antibody, ERBB2 pY1005 antibody, HER2 early signaling antibody