Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb

**Background:** HER3/ErbB3 is a member of the ErbB receptor protein tyrosine kinase family, but lacks tyrosine kinase activity. Tyrosine phosphorylation of ErbB3 depends on its association with other ErbB tyrosine kinases. Upon ligand binding, heterodimers form between ErbB3 and other ErbB proteins and ErbB3 is phosphorylated on tyrosine residues by the activated ErbB kinase (1, 2). There are at least 9 potential tyrosine phosphorylation sites in the carboxy terminal tail of ErbB3. These sites serve as consensus binding sites for signal transducing proteins, including Src family members, Grb2 and the p85 subunit of PI3 kinase, which mediate ErbB-downstream signaling (3). Both Tyr1222 and Tyr1289 of ErbB3 reside within a YXXM motif and participate in signaling to PI3 kinase (4).

ErbB3 is highly expressed in many cancer cells (5) and activation of ErbB3-Pi3 kinase pathway is correlated with malignant phenotypes of adenocarcinomas (6). In tumor development, ErbB3 may function as an oncogenic unit together with other ErbB members, e.g. ErbB2 requires ErbB3 to drive breast tumor cell proliferation (7). Thus, prevention of the interaction of ErbB3 with other ErbB tyrosine kinases has become a novel anti-tumor strategy.

**Applications**

- Western blotting
- Immunoprecipitation
- Immunohistochemistry (Paraffin)
- Chromatin Immunoprecipitation
- Immunofluorescence
- Flow cytometry
- ELISA-Peptide

**Recommended Antibody Dilutions:**

- Western blotting: 1:1000
- Immunoprecipitation: 1:100
- Immunohistochemistry (Paraffin): 1:1000†
- Unmasking buffer: EDTA
- Antibody diluent: SignalStain® Antibody Diluent #8112
- Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

*Note: Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

**Species Cross-Reactivity:**

- Human, Mouse, Rat, Dog

**Molecular Wt.:** 185 kDa

**Isotype:** Rabbit IgG**

**Phospho-**

**HER3/ErbB3 (Tyr1289)**

**Phospho-**

**ErbB3 (P-Tyr-100)**

**Source/Purification:**

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1289 of human HER3/ErbB3.

**Specificity/Sensitivity:** Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb specifically binds to phosphorylated HER3/ErbB3 but not other phosphorylated tyrosine kinases. Western blot analysis of extracts from cells expressing different activated tyrosine kinase proteins using Phospho-HER3/ErbB3 (Tyr1289) (21D3) Rabbit mAb (upper) or Phospho-Tyrosine mAb (P-Tyr-100) #9411 (lower).

**Entrez-Gene ID:** #2065

**UniProt Acc.:** P21860

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at −20°C. Do not aliquot the antibody.

**Recommended Companions:**

Please see the product web page at www.cellsignal.com for recommended companion products and a complete listing of recommended protocol.

**For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com**
Immunohistochemical analysis of paraffin-embedded human prostate carcinoma, untreated (left) or Calf Intestinal Phosphatase (CIP)-treated (right) using Phospho-HER3/ErbB3 (Tyr1289)(21D3) Rabbit mAb.

Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Phospho-HER3/ErbB3 (Tyr1289)(21D3) Rabbit mAb.

Immunohistochemical analysis of paraffin-embedded MDA-MB-453 cells, untreated (left) or neuregulin-treated (right) using Phospho-HER3/ErbB3 (Tyr1289)(21D3) Rabbit mAb.

Western blot analysis of extracts from mIMCD-3 cells, untreated or treated with neuregulin-1 (100 ng/ml, 5 min) using Phospho-HER3/ErbB3 (Tyr1289)(21D3) Rabbit mAb.