

#12708 Store at -20°C

**HER3/ErbB3 (D22C5) XP® Rabbit mAb****Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, W-S, IP, IHC-Bond, IHC-P, IF-IC, FC-FP	H M	Endogenous	185	Rabbit IgG	#P21860	2065

**Product Usage Information****Application****Dilution**

Western Blotting	1:1000
Simple Western™	1:50 - 1:250
Immunoprecipitation	1:50
IHC Leica Bond	1:50
Immunohistochemistry (Paraffin)	1:250
Immunofluorescence (Immunocytochemistry)	1:200
Flow Cytometry (Fixed/Permeabilized)	1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #60638.

**Specificity / Sensitivity**

HER3/ErbB3 (D22C5) XP® Rabbit mAb recognizes endogenous levels of total HER3/ErbB3 protein. This antibody does not cross-react with other HER family proteins.

**Species predicted to react based on 100% sequence homology:**

Rat

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to the carboxy terminus of human ErbB3 protein.

## Background

HER3/ErbB3 is a member of the ErbB receptor protein tyrosine kinase family, but it 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 PI3K (4).

Investigators have found that ErbB3 is highly expressed in many cancer cells (5) and activation of the ErbB3/PI3K pathway is correlated with malignant phenotypes of adenocarcinomas (6). Research studies have demonstrated that 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, investigators view inhibiting interaction between ErbB3 and ErbB tyrosine kinases as a novel strategy for anti-tumor therapy.

## Background References

1. Yarden, Y. and Slivkowski, M.X. (2001) *Nat Rev Mol Cell Biol* 2, 127-37.
2. Guy, P.M. et al. (1994) *Proc Natl Acad Sci U S A* 91, 8132-6.
3. Songyang, Z. et al. (1993) *Cell* 72, 767-78.
4. Kim, H.H. et al. (1994) *J Biol Chem* 269, 24747-55.
5. Sithanandam, G. et al. (2003) *Carcinogenesis* 24, 1581-92.
6. Kobayashi, M. et al. (2003) *Oncogene* 22, 1294-301.
7. Holbro, T. et al. (2003) *Proc Natl Acad Sci U S A* 100, 8933-8.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**WB:** Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation **IHC-Bond:** IHC Leica Bond  
**IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)  
**FC-FP:** Flow Cytometry (Fixed/Permeabilized)

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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