

# SignalSlide® HER3/ErbB3 IHC Controls

1 Pack  
 (5 slides)

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New 08/13

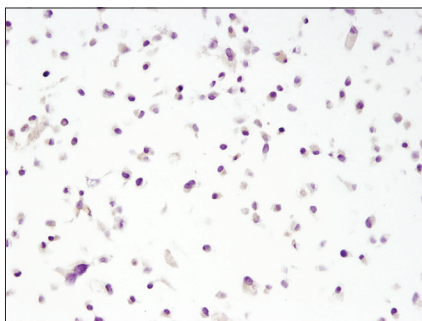
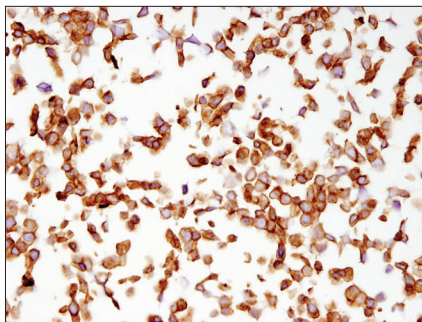
**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Description:** Each control slide contains formalin fixed, paraffin-embedded cell pellets, MCF7 (HER3/ErbB3 positive) and MDA-MB-231 (HER3/ErbB3 negative), that serve as a control for HER3/ErbB3 immunostaining.

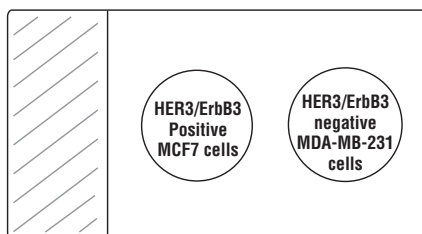
**Background:** HER3/ErbB3 is a member of the ErbB receptor protein tyrosine kinase family, but it lacks tyrosine kinase activity. Tyrosine phosphorylation of ErbB3 depends on its association with other ErbB tyrosine kinases. Upon ligand binding, heterodimers form between ErbB3 and other ErbB proteins, 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.

**Applications:** These slides are intended for use in immunohistochemical assays.



Immunohistochemical analysis of paraffin-embedded cell pellets, MCF7 (upper) and MDA-MB-231 (lower), using HER3/ErbB3 (D22C5) XP® Rabbit mAb #12708.



**Storage:** Store at 4°C.

Optimal staining is achieved if slides are stained following CST's standard IHC protocols and are used within 8 weeks of assay date; however, signals may persist beyond two months.

**For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Please visit [www.cellsignal.com/companion](http://www.cellsignal.com/companion) for a complete listing of recommended companion products.**

**Background References:**

- (1) Yarden, Y. and Sliwkowski, M.X. (2001) *Nature Rev. Mol. Cell. Biol.* 2, 127-137.
- (2) Guy, P.M. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 8132-8136.
- (3) Songyang, Z. et al. (1993) *Cell* 72, 767-778.
- (4) Kim, H.H. et al. (1994) *J. Biol. Chem.* 269, 24747-24755.
- (5) Sithanandam, G. et al. (2003) *Carcinogenesis* 24, 1581-1592.
- (6) Kobayashi, M. et al. (2003) *Oncogene* 22, 1294-1301.
- (7) Holbro, T. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 8933-8938.