# Anti-HER2 / ErbB2 Antibody [PD00-99]

## HA721210

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| **Product Type:** | Recombinant Rabbit monoclonal IgG, primary antibodies |
| **Species reactivity:** | Human |
| **Applications:** | WB, IHC-P, IF-Tissue |
| **Molecular Wt:** | Predicted band size: 138 kDa |
| **Clone number:** | PD00-99 |

**Description:** HER-2 (also called HER-2/neu, c-erbB2, ERBB2 or neu) is a transmembrane receptor tyrosine kinase. HER-2 is a proto-oncogene, i.e. its activation causes malignant transformation and increases the malignant potential (cell proliferation, invasiveness etc.) of the cells. Amplification of HER-2 gene invariably leads to over-expression of its protein product. The magnitude of over- expression is usually 10-100 folds or even more. Over-expressed HER-2 protein disturbs the HER-receptor family signalling networks, i.e. signalling mediated via EGFR receptor, HER-3 and HER-4. In tumours, HER-2 is over-expressed in 15-25% of primary breast cancers. Metastases usually have the same amplification status as the primary tumours. HER-2 amplification and over-expression are typical features of hormone receptor negative, rapidly growing histologic grade 2-3 tumours. Of the histologic types, Paget's disease is almost invariably HER-2 positive, whereas only a small minority of lobular and tubular carcinomas shows HER-2 amplification. HER-2 amplification and over-expression can also be found in intestinal type gastric and gastroesophageal carcinomas, ovarian carcinomas, high grade endometrial carcinomas and some salivary duct tumours. Low-level copy number increases have been found also in rare cases of lung tumours. Because of its central importance in breast cancer therapy selection, standardization of HER-2 IHC assays and slide interpretation are of outmost clinical and economical importance.

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| **Immunogen:** | Recombinant fragment within Human ErbB2/ HER2 aa 500-650. |
| **Positive control:** | SK-Br-3 cell lysates, human breast carcinoma tissue. |
| **Subcellular location:** | Cell membrane, Nucleus, Cytoplasm. |
| **Database links:** | SwissProt: P04626 Human |
| **Recommended Dilutions:** | |
| **WB** | 1:1,000 |
| **IHC-P** | 1:4,000 |
| **IF-Tissue** | 1:200 |
| **Storage Buffer:** | PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide. |
| **Storage Instruction:** | Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles. |
| **Purity:** | Protein A affinity purified. |

## Images

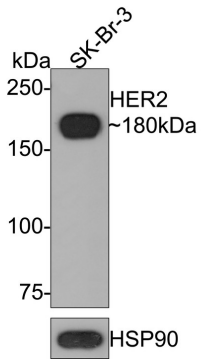


**Fig1:** Western blot analysis of HER2 / ErbB2 on SK-Br-3 cell lysates with Rabbit anti-HER2 / ErbB2 antibody (HA721210) at 1/1,000 dilution.

Lysates/proteins at 10 µg/Lane.

Predicted band size: 138 kDa
Observed band size: 180 kDa

Exposure time: 2 minutes;

6% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721210) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

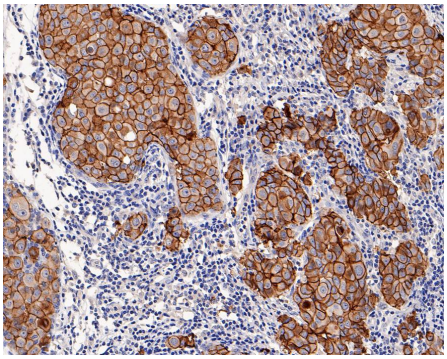

**Fig2:** Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue with Rabbit anti-HER2 / ErbB2 antibody (HA721210) at 1/4,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with dd$H_2O$ and PBS, and then probed with the primary antibody (HA721210) at 1/4,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

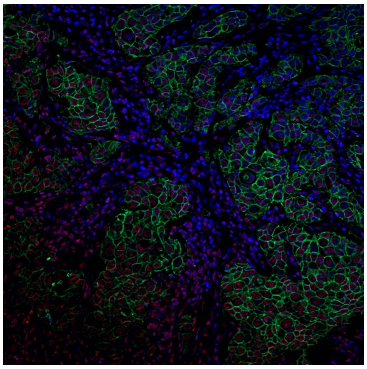

**Fig3:** Immunofluorescence analysis of paraffin-embedded human breast cancer tissue labeling HER2 / ErbB2 (HA721210, green) and Histone H3 (HA601335, red).

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS. And then probed with the primary antibodies HER2 / ErbB2 (HA721210, green) at 1/200 dilution and Histone H3 (HA601335, red) at 1/200 dilution overnight at 4 ℃, washed with PBS.

iFluor™ 488 conjugate-Goat anti-Rabbit IgG (HA1121) and iFluor™ 594 conjugate-Goat anti-Mouse IgG (HA1126) were used as the secondary antibodies at 1/1,000 dilution. DAPI was used as nuclear counterstain.



## Background References

1. Ellis CM, Dyson MJ, Stephenson TJ, Maltby EL. HER2 amplification status in breast cancer: a comparison between immunohistochemical staining and fluorescence in situ hybridisation using manual and automated quantitative image analysis scoring techniques. J Clin Pathol. 2005 Jul;58(7):710-4.
2. Gancberg D, Jarvinen T, di Leo A, Rouas G, Cardoso F, Paesmans M, Verhest A, Piccart MJ, Isola J, Larsimont D. Evaluation of HER-2/NEU protein expression in breast cancer by immunohistochemistry: an interlaboratory study assessing the reproducibility of HER-2/NEU testing. Breast Cancer Res Treat. 2002 Jul;74(2):113-20.