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# Anti-HER3 (Phospho-Y1222) Antibody

Catalog # AP53346

## Product Information

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| **Application** | WB, IHC, IF/IC |
| **Primary Accession** | P21860 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 148098 |

## Additional Information

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| **Gene ID** | 2065 |
| **Other Names** | HER3; Receptor tyrosine-protein kinase erbB-3; Proto-oncogene-like protein c-ErbB-3; Tyrosine kinase-type cell surface receptor HER3 |
| **Target/Specificity** | KLH-conjugated synthetic phosphopeptide corresponding to residues surrounding Y1222 of human HER3 protein. The exact sequence is proprietary. |
| **Dilution** | WB~~ 1:1000 IHC~~1:100~500 IF/IC~~N/A |
| **Format** | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide. |
| **Storage** | Store at -20 °C.Stable for 12 months from date of receipt |

## Protein Information

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| **Name** | ERBB3 |
| **Synonyms** | HER3 |
| **Function** | Tyrosine kinase receptor that, despite substitutions of key catalytic residues in the kinase domain, retains residual catalytic activity enabling autophosphorylation (PubMed:9148746, PubMed:20351256). Functions primarily as a heterodimer, preferentially partnering with ERBB2/HER2, which phosphorylates ERBB3 on specific tyrosine residues and provides the kinase activity required for downstream signaling (PubMed:22983903). Binds neuregulins NRG1 and NRG2 through its extracellular domain, which induces conformational change from a tethered autoinhibited state to an extended conformation competent for dimerization (PubMed:20682778). Upon heterodimerization and trans-phosphorylation, acts as the most efficient activator of the PI3K/AKT pathway within the ErbB family (PubMed:22983903). Also activates the RAS/MAPK/ERK cascade to promote cell proliferation |

(PubMed:22983903). Plays an essential role in cardiac development; required for normal formation of the endocardial cushion and ventricular trabeculation during embryogenesis (Potential). Critical for peripheral nervous system development, where neuregulin-1/ERBB3 signaling drives Schwann cell survival, proliferation, and differentiation, and is required for axonal myelination (By similarity). Involved in epithelial morphogenesis and mammary gland development (By similarity). Also involved in the regulation of myeloid cell differentiation (PubMed:27416908). Participates in a regulatory feedback loop whereby pathway activation induces transcriptional up-regulation of ERBB3 expression (PubMed:21368164). Participates in vesicular sorting by stabilizing the ARF6-GGA3-RABEP1 endosomal sorting complex, to promote early recycling of TFRC and ITGB1 (PubMed:41348103). May also be activated by additional ligands including CSPG5 and EGFL6; the latter triggers assembly of an ERBB2/ERBB3/ITGB3 signaling complex leading to ERK phosphorylation and cell proliferation (PubMed:15358134, PubMed:41151154).

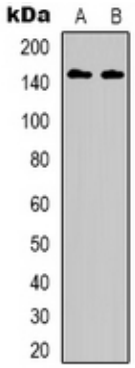
**Cellular Location** [Isoform 1]: Cell membrane; Single-pass type I membrane protein

**Tissue Location** Epithelial tissues and brain.

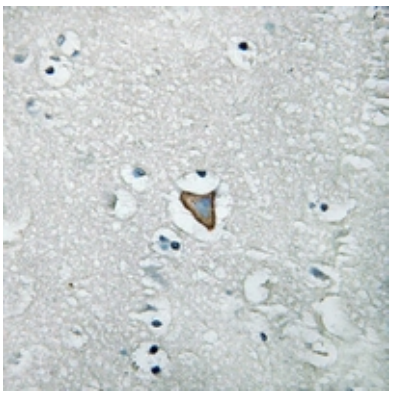
## References


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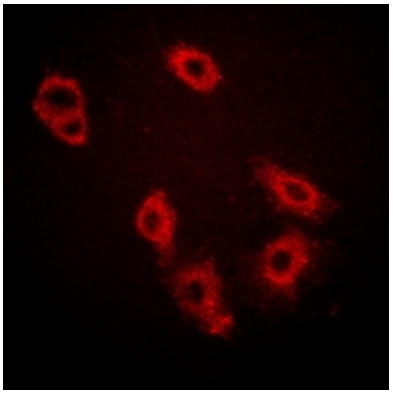

## Images




Western blot analysis of HER3 (Phospho-Y1222) expression in A431 EGF-treated (A), MCF7 EGF-treated (B) whole cell lysates. (Predicted band size: 148 kD; Observed band size: 185 kD)



Immunohistochemical analysis of HER3 (Phospho-Y1222) staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of HER3 (Phospho-Y1222) staining in HuvEc cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

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