### Product datasheet

#### Anti-ErbB 2 antibody ab223645

1 Image

**Overview**

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-ErbB 2 antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Goat polyclonal to ErbB 2</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Goat</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>ab223645 is expected to recognize both reported isoforms (NP_004439.2; NP_001005862.1). The immunizing peptide represents part of the extracellular domain.</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: IHC-P</td>
</tr>
<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Human</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide corresponding to Human ErbB 2 aa 551-562 (internal sequence). (NP_004439.2; NP_001005862.1). Sequence: PREYVNARHCLP</td>
</tr>
<tr>
<td><strong>Database link</strong></td>
<td>P04626</td>
</tr>
</tbody>
</table>

**Positive control**

IHC-P: Human breast cancer tissue.

**Properties**

<table>
<thead>
<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>pH: 7.30, Preservative: 0.02% Sodium azide, Constituents: 0.5% BSA, Tris buffered saline</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td><strong>Purification notes</strong></td>
<td>ab223645 was purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Polyclonal</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
</tr>
</tbody>
</table>
Function
Protein tyrosine kinase that is part of several cell surface receptor complexes, but that apparently
needs a coreceptor for ligand binding. Essential component of a neuregulin-receptor complex,
although neuregulins do not interact with it alone. GP30 is a potential ligand for this receptor.
Regulates outgrowth and stabilization of peripheral microtubules (MTs). Upon ERBB2 activation,
the MEMO1-RHOA-DIAPH1 signaling pathway elicits the phosphorylation and thus the inhibition
of GSK3B at cell membrane. This prevents the phosphorylation of APC and CLASP2, allowing its
association with the cell membrane. In turn, membrane-bound APC allows the localization of
MACF1 to the cell membrane, which is required for microtubule capture and stabilization.
In the nucleus is involved in transcriptional regulation. Associates with the 5'-TCAAATTC-3'
sequence in the PTGS2/COX-2 promoter and activates its transcription. Implicated in
transcriptional activation of CDKN1A; the function involves STAT3 and SRC. Involved in the
transcription of rRNA genes by RNA Pol I and enhances protein synthesis and cell growth.

Tissue specificity
Expressed in a variety of tumor tissues including primary breast tumors and tumors from small
bowel, esophagus, kidney and mouth.

Involvement in disease
Hereditary diffuse gastric cancer
Glioma
Ovarian cancer
Lung cancer
Gastric cancer
Chromosomal aberrations involving ERBB2 may be a cause gastric cancer. Deletions within
17q12 region producing fusion transcripts with CDK12, leading to CDK12-ERBB2 fusion leading
to truncated CDK12 protein not in-frame with ERBB2.

Sequence similarities
Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.
Contains 1 protein kinase domain.

Post-translational modifications
Autophosphorylated. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor
phosphorylates tyrosine residues on the other subunit (Probable). Ligand-binding increases
phosphorylation on tyrosine residues (PubMed:27134172). Signaling via SEMA4C promotes
phosphorylation at Tyr-1248 (PubMed:17554007). Dephosphorylated by PTPN12
(PubMed:27134172).

Cellular localization
to the nucleus requires endocytosis, probably endosomal sorting and is mediated by importin
beta-1/KPNB1.
Paraffin-embedded human breast cancer tissue (ErbB 2+ left, triple negative right) stained for ErbB 2 using ab223645 at 4 µg/ml in immunohistochemical analysis, followed by HRP-staining.

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