Anti-Human HER3 Rat IgG Monoclonal antibody

Catalog No.LKG-M007

For research use only. Not for diagnostic use.

**BACKGROUND**

HER3 (human epidermal growth factor receptor 3) is a membrane bound protein that in humans is encoded by the ERBB3 gene. HER3 has a neuregulin binding domain but not an active kinase domain. It can therefore bind this ligand but cannot convey a signal into the cell via protein phosphorylation. HER3 forms heterodimers with other EGF receptor family members which do have kinase activity. The heterodimerization leads to the activation of pathways which result in cell proliferation or differentiation. HER3 overexpression have been reported in numerous cancers including colorectal1), breast2), ovarian3) and bladder4) tumors. Moreover, HER3 is associated with targeted chemotherapeutic resistance in numerous cancers, such as breast5,6), lung7) and prostate8) cancers. Thus, HER3 is expected to be useful for cancer diagnosis and treatment target9).

This is a functional antibody against HER3 that overcomes the resistance of cancer cells upon administration of anti-HER2 or anti-HER1 antibody drugs. It has been developed by Cell Biology Laboratory, Kindai University (Prof. T. Masuko), who had reported a world’s first scientific paper about anti-HER2 antibody in 198910).

**Product type**
Primary Antibodies

**Immunogen**
Human HER3 transfected cell

**Raised in**
Rat

**Myeloma**
P3 × 63Ag8.653

**Clone number**
Ab1-58

**Isotype**
IgG2a

**Source**
Ascites

**Purification**
Caprylic acid and ammonium sulphate precipitation

**Buffer**
Phosphate buffered saline (PBS)*

*NOTE: PBS doesn't contain preservative. Preservative is added based on the research purpose.

**Concentration**
1mg / mL

**Volume**
100 uL (100 ug)

**Label**
Unlabeled

**Specificity**
Human HER3 extracellular domain

Ab1-58 does not detect other HER receptors (HER1, HER2 or HER4).

**Cross reactivity**
Human, No-cross reaction with rat or mouse, Other species are not tested.

**Storage**
Store cold (2 to 8 °C)

**Application notes**
Flow cytomtery; 10 μg/mL

**Recommended dilutions**
Neutralization of human HER3 bioactivity; 10μg/mL

Immunohistochemistry (Paraffin); 10 μg/mL overnight at 4 °C.

Immunoprecipitation
- Other applications have not been tested.
- Optimal dilutions/concentrations should be determined by the end user.

**References**
1) Mitsui K., et al., BMC Cancer. 2014 Nov 22;14:863. PMID: 25416285
Application data

◆ Flow cytometry (FCM)

Flow cytometry analysis of HER3 in Human cancer cell lines with anti-HER3 (Ab1-58, 10μg/mL) antibody and PE-labeled anti Rat IgG antibody.

◆ Neutralization of human HER3 bioactivity

Tyrosine (Y1222)-phosphorylation of HER3 by NRG1 (10ng/mL) in LS-174T colon cancer and T47D breast cancer was significantly inhibited by anti-HER3 (Ab1-58, 10μg/mL) antibody.

RELATED PRODUCT

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<thead>
<tr>
<th>Product Name</th>
<th>Clone</th>
<th>Application</th>
<th>Quantity</th>
<th>Maker</th>
<th>Cat#</th>
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</thead>
<tbody>
<tr>
<td>Anti Human HER4 Rat IgG Monoclonal Antibody</td>
<td>P6-1</td>
<td>FCM/Neutralization assay</td>
<td>100 μg / 100μL</td>
<td>CAC</td>
<td>LKG-M011</td>
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