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Product Information

Anti-Human ErbB2/HER2 Protein A scaffold, Biotin-Conjugated

Cat. No.: **AFB-23LY**
This product is for research use only and is not intended for diagnostic use.

Product Overview

The Anti-ErbB2/HER2 Protein A Scaffold molecule is a highly specific affinity ligand selected against the extra cellular domain of HER2. The molecule is biotinylated at the unique C-terminal cysteine using a maleimide-biotin reagent. The biotinylated Anti-HER2 Protein A Scaffold molecule is excellent for fluorescence staining of cells and tissues in combination with streptavidin conjugated fluorescein probes. It can also be used for immunohistochemical staining of frozen tissue sections in combination with HRP-Conjugated streptavidin. Staining of paraffin embedded tissues is not recommended. In addition, the biotinylated Anti-HER2 Protein A Scaffold molecule is easily immobilized on different streptavidin coated solid supports.

Antigen Description

The human epidermal growth factor receptor HER2 (Her2/neu, ErbB2, or c-erb-b2) is a growth factor receptor that is expressed on many cell types. HER2-proteins are overexpressed in a number of cancer types and assemble in homo- or heterodimers to form functional signaling units. When overexpressed, homo- or heterodimers of HER2 cause increased proliferation, decreased apoptosis, enhanced tumor cell motility and neo-angiogenesis-all being traits strongly associated with tumor formation. Thus, the her2 gene is considered an oncogene.

Specific Activity

Anti-HER2 Protein A scaffold molecule binds to extracellular domain of human epidermal growth factor receptor 2 (HER2). Cross reactivity with other species has not been tested.

Source

Display library

Species Reactivity

human

Expression Host

E. coli

Applications

Fluorescence and immunohistochemical staining of cells and frozen tissue sections, flow cytometry.

Molecular Weight

14.5 kDa

Storage

Short-term storage at +4°C is recommended. For long-term storage, the protein solution should be aliquoted and then stored at -20°C.
There is no decrease in performance of the biotinylated Protein A Scaffold molecule after 10 repeated freeze and thaw cycles or afte

ANTIGEN GENE INFOMATION

Gene Name

ERBB2v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastomaderived oncogene homolog (avian) [Homo sapiens]

Official Symbol

ERBB2

Synonyms

NEU; NGL; HER2; TKR1; CD340; HER-2; HER-2/neu; EC 2.7.10.1; C-erbB-2; erbB-2; c-erb B2/neu protein; erbB-2; herstatin; neuroblastoma/glioblastoma derived oncogene homolog; v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 2 (neuro/glioblastoma derived oncogene homolog); NEU proto-oncogene; MLN 19; CD340 antigen; ERBB2

Gene ID

2064

mRNA Refseq

NM_001005862

Protein Refseq

NP_001005862

MIM

164870

UniProt ID

P04626

Chromosome Location

17q21.1

Pathway

Adherens junction; Calcium signaling pathway; Dorso-ventral axis formation Endometrial cancer; ErbB signaling pathway; Focal adhesion; Non-small cell lung cancer; Pancreatic cancer; Prostate cancer

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.

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