

Monoclonal Mouse Anti-Human HER3

Clone DAK-H3-IC

Code M7297

Recommended use For research use only. Not for use in diagnostic procedures.

Monoclonal Mouse Anti-Human HER3, Clone DAK-H3-IC, is recommended for use in immunohistochemistry.

The antibody labels the intracellular domain of human HER3.

Synonyms for antigen ErbB-3 (1, 2), c-erbB-3 (3).

Summary and explanation

The human epidermal growth factor receptor (HER) family of receptor tyrosine kinases consists of four closely related members; EGFR (also known as HER1 or ErbB-1), HER2/neu (ErbB-2), HER3 (ErbB-3), and HER4 (ErbB-4). All the four members are transmembrane receptors that contain an extracellular ligand binding domain, a single hydrophobic transmembrane domain and an intracellular domain. Ligand binding to a monomeric HER member activates the cytoplasmic catalytic function by promoting receptor homo- and heterodimerization and self-phosphorylation on tyrosine residues. The latter serve as docking sites for various adaptor proteins or enzymes, which simultaneously initiate signaling cascades to produce physiological outcomes including mitosis, migration, adhesion, differentiation and apoptosis (1, 4).

The intracellular portion of the HER family receptors consists of highly conserved tyrosine kinase domains, though HER3 contains substitutions of critical amino acids within this domain and lacks kinase activity. Signaling through the kinase-deficient HER3 requires heterodimerization with a kinase active partner (1). It has been suggested that HER2/neu represents the preferred heterodimerization partner of all other HER members, and the preferred dimerization partner of HER2/neu is HER3 (2).

HER3 is expressed in a wide variety of normal human tissues including the cells of the gastrointestinal, reproductive, respiratory and urinary tracts as well as the skin, endocrine and nervous system in a distribution distinctly different from that observed for EGFR and HER2 (3).

Reagent provided

Monoclonal mouse antibody provided in liquid form as cell culture supernatant (containing fetal bovine serum) dialysed against 0.05 mol/L Tris/HCl, pH 7.2, and containing 0.015 mol/L sodium azide.

Clone: DAK-H3-IC. Isotype: IgG2a, kappa.

Mouse IgG concentration mg/L: See label on vial.

Immunogen Intracellular fragment of recombinant human HER3 oncoprotein corresponding to amino acid 1049 – 1342, including the leader sequence in the numbering.

Specificity In Western blotting of recombinant proteins containing either the extracellular domain or the intracellular domain of human EGFR, HER2, HER3 or HER4 protein, the antibody only labels the HER3 intracellular domain protein.

No labeling is observed to the recombinant human HER3 extracellular domain protein or any of the EGFR, HER2 or HER4 proteins.

As demonstrated by immunohistochemistry on formalin-fixed, paraffin-embedded CHO cells transfected with constructs expressing the intracellular domain of EGFR, HER2, HER3 or HER4, respectively, the antibody only labels the cells expressing the intracellular domain of HER3.

As demonstrated by immunohistochemistry on formalin-fixed, paraffin-embedded tissue, the antibody crossreacts with the HER3-equivalent protein in dog, horse, and mouse.

Precautions 1. The device is not intended for clinical use including diagnosis, prognosis, and monitoring of disease state, and it must not be used in conjunction with patient records and treatment.

2. This product contains sodium azide (NaN₃), a chemical highly toxic in pure form. At product concentrations, though not classified as hazardous, sodium azide may react with lead and copper plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent metal azide build-up in plumbing.

3. As with any product derived from biological sources, proper handling procedures should be used.

4. Wear appropriate Personal Protective Equipment to avoid contact with eyes and skin.

5. Unused solution should be disposed of according to local, State and Federal regulations.

Storage Store at 2-8 °C. Do not use after expiration date stamped on vial. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact Dako Technical Support