

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human ErbB3/Her3 protein			
	Human ErbB3/Her3 (Ser20-Thr643) Accession # P21860.1	IEGRMD	Human IgG ₁ (Pro100-Lys330)	Avi-tag
	N-terminus		C-terminus	
N-terminal Sequence	Ser20			
Analysis				
Structure / Form	Disulfide-linked homodimer, biotinylated via Avi-tag			
Predicted Molecular Mass	97 kDa			

SPECIFICATIONS

SDS-PAGE	110-130 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human NRG1-beta 1/HRG1-beta 1 ECD Protein (Catalog # 377-HB/CF) is coated at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human ErbB3/Her3 Fc Chimera Avi-tag (Catalog # AV110701) binds with an ED ₅₀ of 0.75-6 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity

Biotinylated Recombinant Human ErbB3/Her3 Fc Chimera Avi-tag Protein Binding Activity. When Recombinant Human NRG1-beta 1/HRG1-beta 1 ECD Protein (Catalog # 377-HB/CF) is coated at 1 µg/mL, Biotinylated Recombinant Human ErbB3/Her3 Fc Chimera Avi-tag (Catalog # AV110701) binds with an ED₅₀ of 0.75-6 ng/mL.

SDS-PAGE

Biotinylated Recombinant Human ErbB3/Her3 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human ErbB3/Her3 Fc Chimera Avi-tag (Catalog # AV110701) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 110-130 kDa and 220-260 kDa, respectively.

BACKGROUND

ErbB3, also called human epidermal growth factor receptor 3 (HER3), is a type I membrane glycoprotein that is a member of the ErbB family of tyrosine kinase receptors. ErbB family members serve as receptors for the epidermal growth factor (EGF) family of growth factors (1). Human ErbB3 consists of an extracellular domain (ECD) with four, ligand binding subdomains, I-IV, a transmembrane domain and a cytoplasmic region with a defective kinase domain unique among ErbB family members (1-3). Additionally, the cytoplasmic region contains six consensus binding motifs for the SH2 domain of the regulatory p85 subunit of phosphoinositide 3-kinase (PI 3-kinase, PI3K) as well as one proline-rich consensus binding motif for the SH3 domain of p85 (1-3). The mature ECD of human ErbB3 shares 92% amino acid sequence identity with the ECD of mouse and rat ErbB3. ErbB3 is expressed in keratinocytes, melanocytes, skeletal muscle cells, embryonic myoblasts and Schwann cells. ErbB3 appears to play roles in development, cancer, communication at the neuromuscular junction and regulation of cell growth and differentiation (4, 5). Monomeric ErbB3 serves as a low affinity receptor for the heregulins (HRG). ErbB3 heterodimerizes with ErbB2 to form a high affinity receptor complex. In contrast, ErbB3 homodimerization or heterodimerization with ErbB4 forms a low affinity heregulin-binding complex (6, 7). Because ErbB3 contains a defective kinase domain, the kinase domain of ErbB2 is responsible for initiating the tyrosine phosphorylation signal through the heterodimeric receptor (8). It has been found that a discrete three amino acid signal in the ErbB3 cytoplasmic domain is critical for transactivation of ErbB2 (9). ErbB3 overexpression in various solid tumor is associated with shorter survival of patients and, subsequently, ErbB3 signaling is a target for cancer therapy. Current clinical results suggested that ErbB3 therapies may have the most efficacy in combination therapy (10). Biotinylated Recombinant Human ErbB3 Fc Chimera Avi-tag protein has high binding affinity to Recombinant Human NRG1-β1. Our Avi-tag Biotinylated ErbB3 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation.

References:

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