HER2/CD340 Protein, Rat (His)

Cat. No.:	HY-P72626
Synonyms:	Receptor tyrosine-protein kinase erbB-2; p185neu; CD340; Erbb2; Neu
Species:	Rat
Source:	E. coli
Accession:	P06494 (A67-V323)
Gene ID:	24337
Molecular Weight:	Approximately 32 kDa

PROPERTIES

AA Sequence	A N A S L S F L Q D I Q E V Q G Y M L I A H N Q V K R V P L Q R L R I V R G T Q L F E D K Y A L A V L D N R D P Q D N V A A S T P G R T P E G L R E L Q L R S L T E I L K G G V L I R G N P Q L C Y Q D M V L W K D V F R K N N Q L A P V D I D T N R S R A C P P C A P A C K D N H C W G E S P E D C Q I L T G T I C T S G C A R C K G R L P T D C C H E Q C A A G C T G P K H S D C L A C L H F N H S G I C E L H C P A L V T Y N T D T F E S M H N P E G R Y T F G A S C V T T C P Y N Y L S T E V G S C T L V C P P N N Q E V
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, 5% Trehalose, 4M Urea, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	HER2/CD340 Protein, a protein tyrosine kinase, serves as a crucial component within various cell surface receptor complexes, necessitating a coreceptor for ligand binding. While an essential element in the neuregulin-receptor complex, it notably requires the presence of neuregulins for interaction. Additionally, GP30 stands out as a potential ligand for this receptor. Beyond its receptor functions, HER2 plays a key role in the regulation of peripheral microtubules (MTs), influencing

their outgrowth and stabilization. Upon activation, the MEMO1-RHOA-DIAPH1 signaling pathway induced by ERBB2 phosphorylates and inhibits GSK3B at the cell membrane, preventing the phosphorylation of APC and CLASP2. This, in turn, facilitates the association of membrane-bound APC with the cell membrane, enabling the localization of MACF1 crucial for microtubule capture and stabilization. Furthermore, HER2 exhibits diverse interactions, including its preferential binding to the tyrosine-phosphorylated form of CPNE3 at the cell membrane, particularly in a growth factor heredulin-dependent manner. In the nucleus, HER2 extends its influence to transcriptional regulation, associating with specific sequences in the PTGS2/COX-2 promoter and activating transcription. It is also implicated in the transcriptional activation of CDKN1A, a process involving STAT3 and SRC, contributing to rRNA gene transcription by RNA Pol I and enhancing protein synthesis and cell growth. The multifaceted roles of HER2 highlight its intricate involvement in cellular processes, spanning from membrane dynamics to transcriptional regulation.

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