

HER2/CD340 Protein, Human (HEK293)

Cat. No.:	HY-P73094
Synonyms:	Receptor tyrosine-protein kinase erbB-2; MLN 19; CD340; ERBB2; HER2; NEU; NGL
Species:	Human
Source:	HEK293
Accession:	P04626/NP_004439.2 (T23-T652)
Gene ID:	2064
Molecular Weight:	100-110 kDa

PROPERTIES

AA Sequence

T Q V C T G T D M K	L R L P A S P E T H	L D M L R H L Y Q G	C Q V V Q G N L E L
T Y L P T N A S L S	F L Q D I Q E V Q G	Y V L I A H N Q V R	Q V P L Q R L R I V
R G T Q L F E D N Y	A L A V L D N G D P	L N N T T P V T G A	S P G G L R E L Q L
R S L T E I L K G G	V L I Q R N P Q L C	Y Q D T I L W K D I	F H K N N Q L A L T
L I D T N R S R A C	H P C S P M C K G S	R C W G E S S E D C	Q S L T R T V C A G
G C A R C K G P 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	P N P E G R Y T F G	A S C V T A C P Y N
Y L S T D V G S C T	L V C P L H N Q E V	T A E D G T Q R C E	K C S K P C A R V C
Y G L G M E H L R E	V R A V T S A N I Q	E F A G C K K I F G	S L A F L P E S F D
G D P A S N T A P L	Q P E Q L Q V F E T	L E E I T G Y L Y I	S A W P D S L P D L
S V F Q N L Q V I R	G R I L H N G A Y S	L T L Q G L G I S W	L G L R S L R E L G
S G L A L I H H N T	H L C F V H T V P W	D Q L F R N P H Q A	L L H T A N R P E D
E C V G E G L A C H	Q L C A R G H C W G	P G P T Q C V N C S	Q F L R G Q E C V E
E C R V L Q G L P R	E Y V N A R H C L P	C H P E C Q P Q N G	S V T C F G P E A D
Q C V A C A H Y K D	P P F C V A R C P S	G V K P D L S Y M P	I W K F P D E E G A
C Q P C P I N C T H	S C V D L D D K G C	P A E Q R A S P L T	

Biological Activity

1. Measured by its binding ability in a functional ELISA. Immobilized HER2/CD340 Protein, Human (HEK293) at 10 µg/mL (100 µL/well) can bind herceptin and the EC₅₀ is 7-90 ng/mL.
2. Measured by its ability to block anti-ErbB2 mediated inhibition of BT474 human breast ductal carcinoma cell proliferation and the ED₅₀ is 0.3-2.4 µg/mL in the presence of 0.6 µg/mL Anti-ErbB2/Her2 Monoclonal Antibody.

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

Endotoxin Level

<1 EU/µg, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

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 dynamic protein tyrosine kinase, stands as a pivotal component within diverse cell surface receptor complexes, requiring a coreceptor for efficient ligand binding. Crucially, it plays an indispensable role as part of the neuregulin-receptor complex, with GP30 identified as a potential ligand for this receptor. Beyond its receptor functions, HER2/CD340 Protein intricately regulates the outgrowth and stabilization of peripheral microtubules (MTs). Upon activation, the MEMO1-RHOA-DIAPH1 signaling pathway, initiated by ERBB2 activation, orchestrates the phosphorylation and subsequent inhibition of GSK3B at the cell membrane. This strategic inhibition prevents the phosphorylation of APC and CLASP2, facilitating their association with the cell membrane. Notably, membrane-bound APC enables the localization of MACF1 to the cell membrane, a prerequisite for microtubule capture and stabilization. Within the nucleus, HER2/CD340 Protein is actively involved in transcriptional regulation, associating with the 5'-TCAAATTC-3' sequence in the PTGS2/COX-2 promoter to activate transcription. Furthermore, its engagement in the transcription of rRNA genes by RNA Pol I enhances protein synthesis, contributing to overall cell growth. The multifaceted activities of HER2/CD340 Protein underscore its central role in orchestrating diverse cellular processes, ranging from receptor signaling to microtubule dynamics and transcriptional regulation.

Caution: Product has not been fully validated for medical applications. For research use only.

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