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Data Sheet

HER2 (ERBB2) CHO Recombinant Cell Line (High Expression) Catalog #79612-H

Background

Receptor tyrosine-protein kinase erbB-2 (HER2 or CD340) is a protein that in humans is encoded by the *ERBB2* gene. Over-expression of this oncogene has been shown to play an important role in the development and progression of certain aggressive types of breast cancer. HER2 over-expression is also known to occur in ovarian, stomach, adenocarcinoma of the lung, aggressive forms of uterine cancer and gastric cancer. Signaling through the ErbB family of receptors promotes cell proliferation and opposes apoptosis, and therefore must be tightly regulated to prevent uncontrolled cell growth from occurring.

Description

Recombinant clonal stable CHO cell line constitutively expressing full length human ERBB2 protein (Genbank NM_004448.2). Surface expression of ERBB2 was confirmed by flow cytometry. Each stable clonal cell line was selected for different levels of ERBB2 expression (High, Medium, Low) to mimic different stages of cancer target cells with various ERBB2 expression levels.

Application

- Screen for activators or inhibitors of ERBB2 antibody-mediated cell signaling for immunotherapy research and drug discovery.
- Characterize ERBB2 antibodies and ligands for binding assay.

Host Cell

CHO K1 cell line, Chinese Hamster Ovary

Format

Each vial contains ~ 2×10^6 cells in 1 ml of Thaw Media + 10% DMSO.

Storage

Store in liquid nitrogen immediately upon receipt.

Mycoplasma Testing

This cell line has been screened using the Quick Test Mycoplasma Detection Kit (Biotool.com, #B39032) to confirm the absence of Mycoplasma contamination.

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Cell Culture

Thaw Medium 3 (BPS Bioscience, #60186): Ham's F-12 medium (Hyclone #SH30526.01) supplemented with 10% FBS (Life Technologies #26140-079), 1% Penicillin/Streptomycin (Hyclone #SV30010.01).

Growth Medium 3B (BPS Bioscience, #79529): Thaw Medium 3 (BPS Bioscience, #60186) plus 500 µg/ml Hygromycin (Thermo Fisher, #10687010).

Recommended Culture Condition

Thawing cells: Prepare a 15 ml conical tube with 10 ml of pre-warmed Thaw Medium 3 (**no hygromycin**). Quickly thaw cells in a 37°C water bath with constant and slow agitation. Clean the outside of the vial with 70% ethanol and immediately transfer the entire content to Thaw Medium 3 (**no hygromycin**). Avoid pipetting up and down, and gently rock the conical tube.

Spin the cells down at 150 x g for 5 minutes. Discard the medium and re-suspend the cell pellet in fresh Thaw Medium 3 (**no hygromycin**). Transfer the entire content to a T75 flask to distribute the cells. Incubate the cells in a humidified 37°C incubator with 5% CO₂. After 48-72 hours of incubation, change to fresh Thaw Medium 3 (**no hygromycin**), without disturbing the attached cells. Switch to Growth Medium 3B (**with hygromycin**) at the first passage.

Subculture: When cells reach 90% confluency, remove the medium and wash twice with PBS (without magnesium or calcium). Treat cells with 1 ml of 0.25% trypsin/EDTA and incubate for 3 minutes at 37°C. After confirming cell detachment by light microscopy, add 10 ml pre-warmed medium and gently pipette up and down to dissociate cell clumps. Dispense 1 ml of the cell suspension into a new T75 flask containing 14 ml pre-warmed Growth Medium 3B (**with hygromycin**). Incubate cells in a humidified 37°C incubator with 5% CO₂. Cells should be split twice per week at a 1:10 split ratio. Freeze cells in Thaw Medium 3 + 10% DMSO. Cells have been demonstrated to be stable for at least 15 passages; BPS recommends preparing frozen stocks at an early passage.

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Quality Assurance

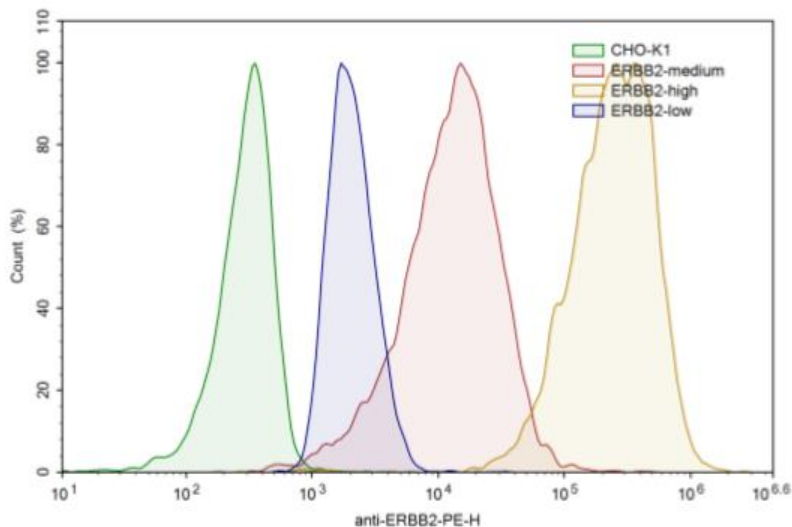


Figure 1. Expression of ERBB2 validated by flow cytometry. Flow cytometry using PE-conjugated anti-human ERBB2 antibody (Biologend #324406) detects ERBB2 on the surface of ERBB2-CHO Recombinant Cell Lines with different expression levels: 79612-H, high expresser: orange; 79612-M, medium expresser: red; 79612-L, low expresser: blue; WT CHO negative control: green.

Vector and Sequence

Human ERBB2 gene (NM_004448.2) was cloned into pCMV3-Hyg

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MELAALCRWGLLLALLPPGAASTQVCTGTDMKLRLPASPETHLDMRLRHL YQGCQVVQGNLELTYLPTNA
SLSFLQDIQEVQGYVLIAHNQVRQVPLQRLRIVRGTQLFEDNYALAVLDNGDPLNNTTPVTGASPGGLRE
LQLRSLTEILKGGVLIQRNPQLCYQDITLWKDIFHKNNQLALTLIDTNRSRACHPCSPMCKGSRWGESSE
DCQSLTRTV CAGGCARCKGPLPTDCCHEQCAAGCTGPKHSDCLACLHFNHSGICELHCPALVTYNTDTF
ESMPNPEGRYTFGASCVTACPYNYLSTDVGSCTLVCPLHNQEVTAEDGTQRCEKCSKPCARVCYGLGM
EHLREVRAVTSANIRGEFAGCKKIFGSLAFLPESFDGDPASNTAPLQPEQLQVFETLEEITGYLYISAWPDSL
PDL SVFQNLQVIRGRILHNGAYSLTLQGLGISWGLRSLRELGSGLALIHNTLCFVHTVPWDQLFRNPH
QALLHTANRPEDECVGEGLACHQLCARGHCWGPPTQCVNCSQFLRGQECVEECRVLQGLPREYVNA
RHCLPCHPECQPQNGSVTCFGPEADQCVA CAHYKDPPFCVARCP SGVKPDL SYMPIWKFPDEEGACQ
PCPINCTHSCVDLDDKGCPAEQRASPLTSII SA VVGILLVVVLGVVFGILIKRRQQKIRKYTMRRLLQETELV
EPLTPSGAMPNQAQMRILKETELRKVKVLGSGAFGT VYKGIWIPDGENVKIPVAIKV LRENTSPKANKEILD
EAYVMAGVGSPPYVSRLLGICLTSTVQLVTQLMPY GCLLDHVREN RGR LGSQDLLNWCMI AKGMSYLED
VRLVHRDLAARNVLVKSPNHVKITDFGLARLLDIDETEYHADGGKVP IKWMALESILRRRFTHQSDVWSY
GVTVWELMTFGAKPYDGIPAREIPDLLEKGERLPQPPICTIDVYMIMVKCWMIDSECRPRFREL VSEFSRM
ARDPQRFVVIQNE DLGPASPLDSTFYRSLLEDDDMGDLVDAEEYLV PQQGFFCPDPAPGAGGMVHHRH
RSSSTRSGGDLTLGLEPSEEEAPRSPLAPSE GAGSDVFDGDLGMGA AKGLQSLP THDPSPLQRYSED
PTVPLPSETDG YVAPLTCSPQPEYVNQPDVRPQPPSPREGPLPAARPAGATLERPKT LSPGKNGVVKDV
FAFGGAVENPEYLT PQGGAAPQPHPPPAFSPA FDNLYYWDQDPPERGAPPSTFKGTPTAENPEYLGLD
VPV
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Related Products

Product	Cat. #	Size
Growth Medium 3B	79529	500 ml
Thaw Medium 3	60186	100, 500ml
ERBB2-CHO Recombinant Cell Line (Medium Expression)	79612-M	2 vials
ERBB2-CHO Recombinant Cell Line (Low Expression)	79612-L	2 vials
HER2 (ERBB2) Kinase Assay Kit	40721	96 rxns.
HER2 (ERBB2), GST-tag	40230	10 µg
HER4, GST-tag	40232	10 µg
EGFR (ERBB1), His-tag, GST-tag	40187	10 µg
EGFR (ERBB1) Kinase Assay Kit	40321	96 rxns.

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