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Data Sheet

CD22 CHO Recombinant Cell Line (Medium Expression)

Catalog #79557-M

Description

Recombinant clonal stable CHO cell line constitutively expressing full length human CD22 protein (Genbank #NM_001771). Surface expression of CD22 was confirmed by flow cytometry. This clonal cell line was selected for medium level expression of CD22. A clone exhibiting higher levels of CD22 expression is also available (#79557-H). Please contact BPS Bioscience for additional information.

Background

CD22, also known as Siglec-2, is expressed on the membrane of B-cells. It is reported to act as an inhibitory co-receptor of the B-cell receptor to control the body's B-cell response. In 2017 the FDA approved inotuzumab ozogamicin (Besponsa), an antibody-drug conjugate targeting CD22, for patients with B-cell acute lymphoblastic leukemia (ALL). Additional therapies targeting CD22 are under evaluation.

Application

Useful for screening and validating antibodies against CD22 and different CD22 CAR-T for immunotherapy research and drug discovery. Also useful for CD22 binding assays to screen for CD22 ligands.

Host Cell

CHO K1 cell line, Chinese Hamster Ovary

Format

Each vial contains ~ 2.5×10^6 cells in 1 ml of Thaw Media + 10% DMSO.

Storage

Store in liquid nitrogen immediately upon receipt.

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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 3D (BPS Bioscience, #79539): Thaw Medium 3 (BPS Bioscience, #60186) plus 1 mg/ml G418 (Thermo Fisher, #11811031).

Recommended Culture Condition

Thawing cells: Prepare a 15 ml conical tube with 10 ml of pre-warmed Thaw Medium 3 (**no G418**). 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 G418**). 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 G418**). 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 G418**), without disturbing the attached cells. Switch to Growth Medium D 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 2-3 minutes at 37°C. After confirming cell detachment by light microscopy, add 9 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 9 ml pre-warmed media. 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.

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.

Application References

1. Poe J, *et al.* CD22 and Siglec-G in B cell function and tolerance. *Trends Immunol.* 2012 Aug; **33**(8):413-420.
2. Dorner T, *et al.* The mechanistic impact of CD22 engagement with epratuzumab on B cell function: Implications for the treatment of systemic lupus erythematosus. *Autoimmunity Reviews.* 2015 **14**:1079-1086.
3. Wei G., *et al.* Novel immunotherapies for adult patients with B-lineage acute lymphoblastic leukemia. *Journal of Hematology and Oncology.* 2017 **10**:1-13.

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Vector and Sequence

Human CD22 (NM_001771) was cloned into pIRESneo.

TYRALDGDLESFILFHNPEYNKNTSKFDGTRLYESTKDGKVPSEQKRVQFLGDKNKNCTLSIHP
VHLNDSGQLGLRMESKTEKWMERIHLNVSERPFPPHIQLPPEIQESQEVTLTCLLNFSYGYPI
QLQWLLEGVPMRQAAVTSTSLTIKSVFTRSELKFSPQWSHHGKIVTCQLQDADGKFLSNDTVQ
LNVKHTPKLEIKVTPSDAIVREGDSVTMTCEVSSSNPEYTTVSWLKDGTSLKKQNTFTLNLREV
TKDQSGKYCCQVSNDVGPGRSEEVFLQVQYAPPESTVQILHSPAVEGSQVEFLCMSLANPLP
TNYTWYHNGKEMQGRTEEKVHIPKILPWHAGTYSVAENILGTGQRGPGAELDVQYPPKKVTT
VIQNPMPPIREGDTVTLSNYSNPSVTRYEWKPHGAWEEPGLGVLKIQNVGWDNTTIACAAC
NSWCSWASPVALNVQYAPRDVVRKIKPLSEIHSGNSVSLQCDFSSSHPKVEVQFFWEKNGRL
LGKESQLNFDISPEDAGSYSCWVNNSIGQTASKAWTLEVLYAPRRLRVSMSPGDQVMGKS
ATLTCESDANPPVSHYTWFWDWNNQSLPYHSQKLRLPEVKVQHSGAYWCQGTNSVGKGRSPL
STLTVYYSPETIGRRVAVGLGSLAILILAICGLKLQRRWKRTQSQQGLQENSSGQSFFVRNKK
VRRAPLSEGPLSLGCYNPMMEDGISYTTLRFPENIPRTGDAESSEMQRPPDCDDTDTYSA
LHKRQVG DYENVIPDFPEDEGIHYSELIQFGVGERPQAQENV D YVILKH

Quality Assurance

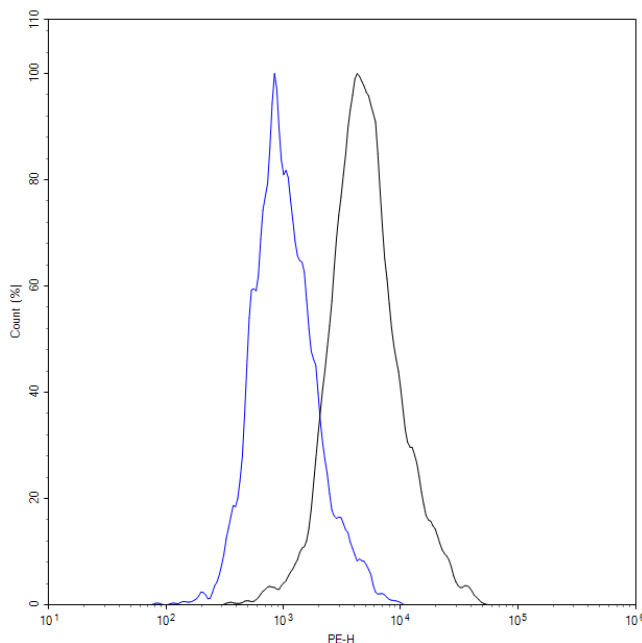


Figure 1. Expression of CD22 validated by flow cytometry. Flow cytometry using PE-conjugated anti-human CD22 antibody (Biolegend, #302506) detects CD22 on the surface of CD22 CHO Recombinant Cell Line, #79557-M. (CD22 CHO, black; CHO parental, blue).

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Related Products

Product	Cat. #	Size
Growth Medium 3D	79539	500 ml
Thaw Medium 3	60186	100, 500ml
CD22, Fc-fusion (IgG1), Avi-Tag HiP™	79464	100 µg
CD22, Fc-fusion (IgG1), Avi-Tag HiP™	79466	50 µg
CD22 CHO Recombinant Cell Line (High Expression)	79557-H	2 vials
BCMA-CHO Recombinant Cell Line (Medium Expression)	79500-M	2 vials
BCMA-CHO Recombinant Cell Line (High Expression)	79500-H	2 vials
BCMA-CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials

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