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Data Sheet

SLAMF7 (CS1) CHO Recombinant Cell Line (Medium Expression) Catalog #79608-M

DESCRIPTION:

Recombinant clonal stable CHO cell line constitutively expressing full length human SLAMF7 protein, also known as CS1 or CD319 (Genbank #NM_021181). Surface expression of SLAMF7 was confirmed by flow cytometry. Each stable clonal cell line was selected for different levels of SLAMF7 expression (High, Medium, Low) to mimic different stages of cancer target cells with various SLAMF7 expression levels.

BACKGROUND:

The surface antigen SLAMF7 is expressed on a fraction of normal lymphocytes, including subsets of natural killer (NK) cells, T cells, and B cells. It is a robust marker of normal plasma cells and malignant plasma cells in multiple myeloma. In contrast to CD138 (the traditional plasma cell marker), CD319/SLAMF7 is much more stable and allows robust isolation of malignant plasma cells from patient samples.

SLAMF7 is under intense investigation as a target for immunotherapy in multiple myeloma. It has been demonstrated that SLAMF7-CAR T cells prepared from patients and healthy donors confer potent antimyeloma reactivity. SLAMF7-CAR T cells confer fratricide of SLAMF7+/high normal lymphocytes. SLAMF7-CAR T cells represent a novel therapeutic agent for the treatment of patients with SLAMF7-expressing multiple myeloma malignancies.

APPLICATION:

1. Useful as SLAMF7-expressing target cells in co-culture assay with SLAMF7-CAR T cells, for both SLAMF7-specific cell killing assay and cytokine production assay.
2. Useful for screening and validating antibodies against SLAMF7 and anti-SLAMF7 CAR-T for immunotherapy research and drug discovery.
3. Useful for SLAMF7 binding assays to screening for SLAMF7 binding partner.

HOST CELL:

CHO K1 cell line, Chinese Hamster Ovary

FORMAT:

Each vial contains ~ 2 x 10⁶ cells in 1 ml of 10% DMSO in FBS.

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:

Frozen Cells: Prepare a 50 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 T25 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. Continue to change the medium every 2-3 days until the cells reach desired confluency. If slow cell growth occurs during resuscitation, increase FBS to 15% for the first week of culture. Switch to Growth Medium 3D after the first passage.

Subculture: When cells reach 90% confluency, remove the medium and GENTLY wash once with PBS (without Magnesium or Calcium). These cells are loosely adherent and detach easily so do not re-suspend the PBS directly onto the cell surface. Treat cells with 2 ml of 0.25% trypsin/EDTA and incubate for 2-3 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. Transfer cells to a 15 ml conical tube and centrifuge at 200 x g for 5 minutes. Remove the medium and re-suspend cells in 10 ml of pre-warmed Growth Medium 3D. Dispense 5 ml of the cell suspension into a new T75 flask containing 20 ml pre-warmed media. Incubate cells in a humidified 37°C incubator with 5% CO₂. Freeze cells in freezing medium (10% DMSO in FBS) when cells reach 90% confluency. Cells have been demonstrated to be stable for at least 15 passages; BPS recommends preparing frozen stocks at an early passage so cells are not used beyond passage 20.

MYCOPLASMA TESTING:

This cell line has been screened using the MycoAlert™ Mycoplasma Detection Kit (Lonza, #LT07-118) to confirm the absence of Mycoplasma contamination. MycoAlert Assay Control Set (Lonza, #LT07-518) was used as a positive control.

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REFERENCES:

1. Kramer, B. Role of the NK cell-activating receptor CRACC in periodontitis. *Infect. Immun.* **81 (3)**, 690-696 (2013)
2. Boles, K.S., *et al.* Molecular cloning of CS1, a novel human natural killer cell receptor belonging to the CD2 subset of the immunoglobulin superfamily. *Immunogenetics.* **52 (3-4)**, 302-307 (2001)
3. Gogishvili, T., *et al.* SLAMF7-CAR T cells eliminate myeloma and confer selective fratricide of SLAMF7+ normal lymphocytes. *Blood.* **130**: 2838-2847 2017

VECTOR AND SEQUENCE:

Human SLAMF7 (NM_021181) was cloned into pIRESneo.

MAGSPTCLTLIYLWQLTGSAASGPVKELVGSVGGAVTFPLKSKVKQVDSIVWTFNTTPLVTIQP
EGGTIIVTQNRNRERVDFFPDGGYSLKLSKLNDSGIYVYGIYSSSLQQPSTQEYVLHVYEHLS
KPKVTMGLQSNKNGTCVTNLTCCMEHGEEDVIYTWKALGQAANESHNGSILPISWRWGESDM
TFICVARNPVSRNFSSPILARKLCEGAADDPDSSMVLLCLLLPLLLSLFVLGLFLWFLKRERQE
EYIEEKRVDICRETPNICPHSGENTYDTIPHNTNRILKEDPANTVYSTVEIPKKMENPHSLLTM
PDTPRLFAYENVI

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QUALITY ASSURANCE

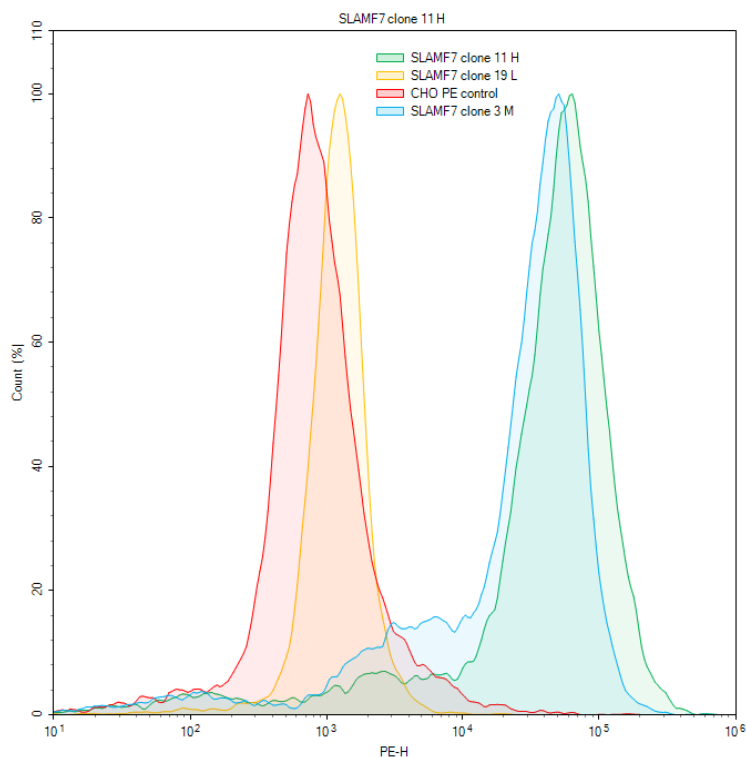


Figure 1. Expression of SLAMF7 validated by flow cytometry. Flow cytometry using PE-conjugated anti-human SLAMF7 antibody (Biolegend, #331806) detects SLAMF7 surface expression in SLAMF7-CHO Recombinant Cell Lines with different expression levels: #79608-H, high expresser, clone 11, green; #79608-M, medium expresser, clone 3, blue; #79608-L, low expresser, clone 19, yellow; WT CHO negative control: red.

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RELATED PRODUCTS

PRODUCT	CAT. #	SIZE
SLAMF7— CHO Recombinant Cell Line (Medium Expression)	79500-M	2 vials
SLAMF7— CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials
Thaw Medium 3	60186	100 ml
Growth Medium 3D	79539	500 ml
BCMA— CHO Recombinant Cell Line (High Expression)	79500-H	2 vials
BCMA— CHO Recombinant Cell Line (Medium Expression)	79500-M	2 vials
BCMA— CHO Recombinant Cell Line (Low Expression)	79500-L	2 vials
CD22 CHO Recombinant Cell Line (High Expression)	79557-H	2 vials
CD22 CHO Recombinant Cell Line (Medium Expression)	79557-M	2 vials
CD19 CHO Recombinant Cell Line (High Expression)	79561-H	2 vials
CD19 CHO Recombinant Cell Line (Medium Expression)	79561-M	2 vials
CD19 CHO Recombinant Cell Line (Low Expression)	79561-L	2 vials

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