

CAR T-CELL THERAPY

BiTES | Enzymes | Cell Lines | Primary Cells | Lentiviruses | Services

ENGINEERING THE
IMMUNE SYSTEM





Engineering the Immune System

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BPS Bioscience Advantages

Scientist Founded, Scientist Driven



Produced In-house

- Made in the USA at our San Diego, California laboratory
- Experience customized, personal support directly from the source



Expansive Portfolio

- Choose from ready to use proteins, cell lines, primary cells, antibodies, BiTES, luciferase buffers, and lentiviruses



CAR T-cell Service Platform

- Lentivector design and construct
- Preparation and validation of functional CAR T-cells
- CAR T-cell expansion and optimization
- Cytotoxic (cell killing) assays
- Generation of BiTE constructs and production of BiTE antibodies
- Antibody screening
- Custom cell line development

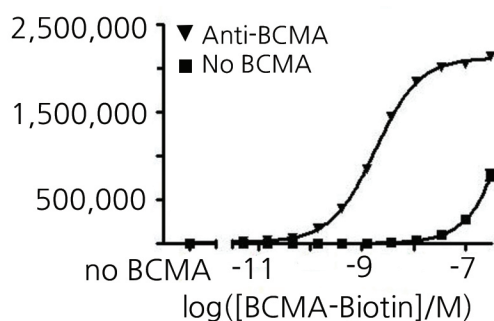
CAR T-Cell Products

Proteins

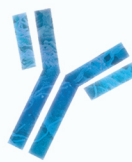


- Fluorescent labeled
- Low aggregation
- Variety of tags
- Biotin-labeled

Anti-BCMA: BCMA (Biotin) Binding

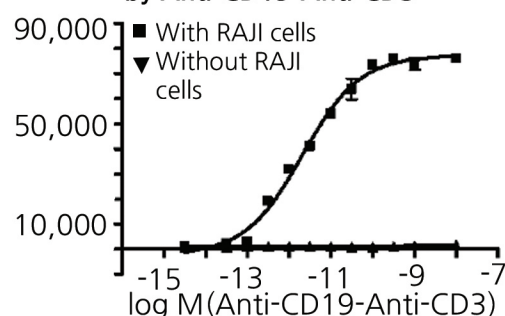


Antibodies



- Bispecific & Trispecific
- Single Chain Variable Fragment
- Recombinant

Activation of NFAT Jurkat Reporter by Anti-CD19-Anti-CD3

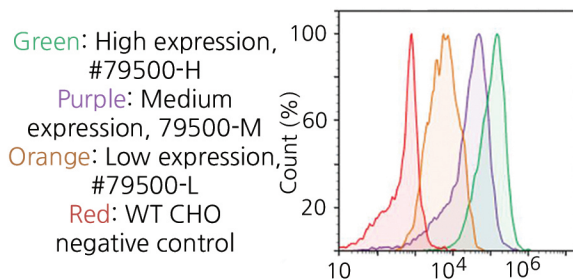


Cell Lines & Primary Cells

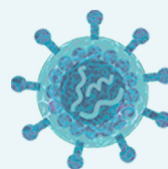


- Cell lines for top targets, tumor antigens and immune checkpoints
- High, medium, and low expression levels
- CD4+ and CD8+ T-cells, luciferase buffer, and PBMCs

BCMA-CHO Flow Cytometry

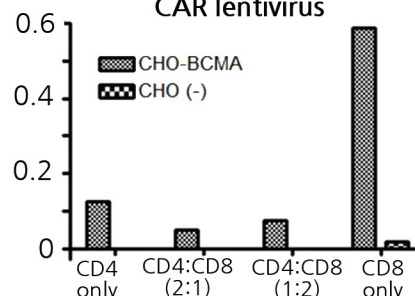


Lentiviruses



- Ideal for transducing primary cells
- Stable cell line generation
- Transient or long term gene expression

IFN- γ Production of Primary T-cells transduced with anti-BCMA CAR lentivirus



Custom CAR T-Cell Development

Project Milestones

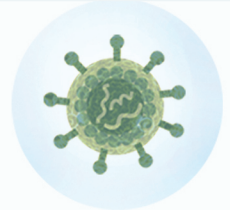
Ab sequence against cancer antigens is sent to BPS



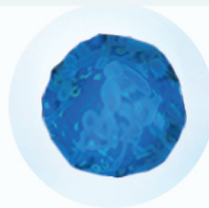
Engineering & validation of ScFv



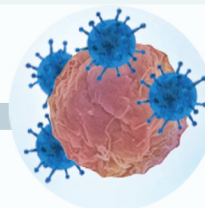
CAR Lentivirus production and initial validation



T-cell preparation & transduction

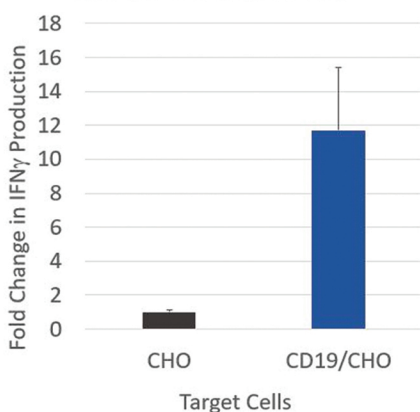


Functional validation of CAR T-cells



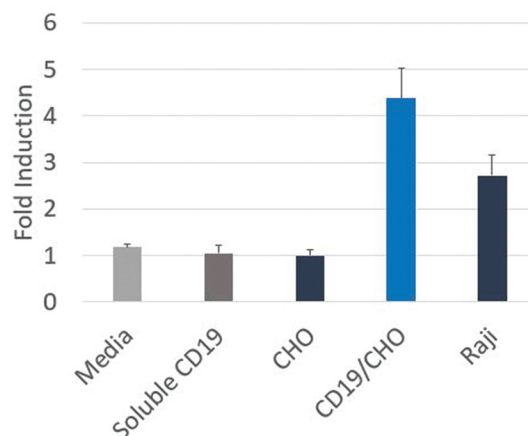
IFN γ Cytokine Detection from CAR T-Cells

IFN γ Production of Anti-CD19 CAR-T (CD4:CD8=1:1) Cells Induced by CD19/CHO cells (E:T=10:1)



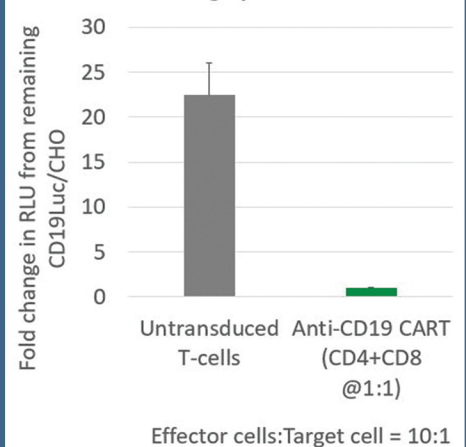
Primary Screening & Validation of CAR Activity Using Reporter Cell Line

Anti-CD19 CAR/Jurkat NFAT Stable Pool in Co-culture Reporter Assay



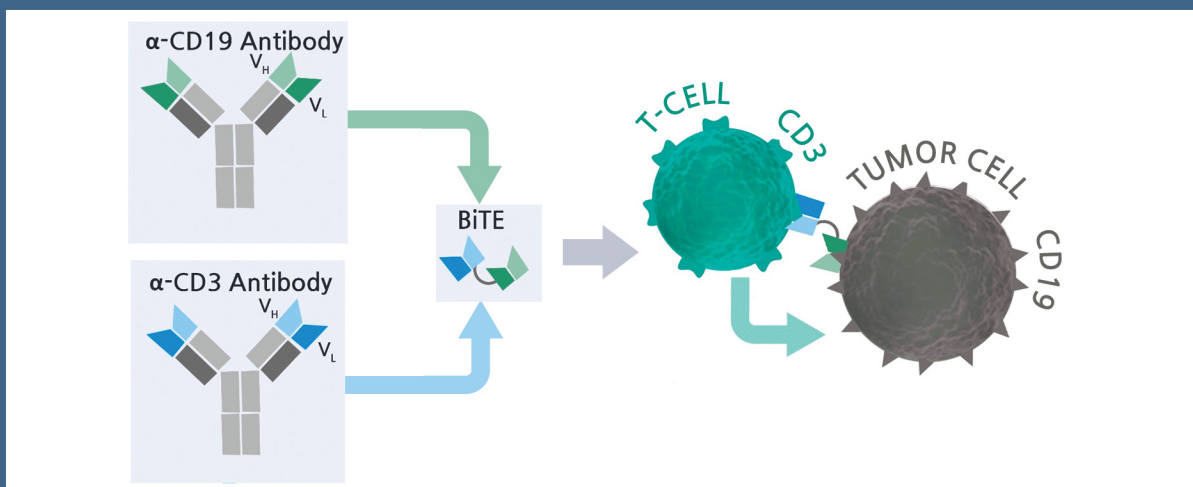
CAR T-Cell Killing Assays

CD19 Luc/CHO Target Cell Induced Killing by CART

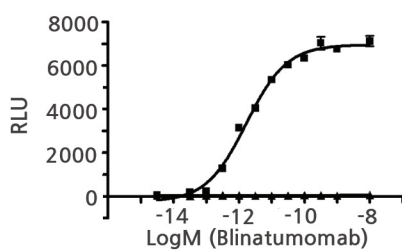


BiTE Antibodies & Services

- Generating BiTE constructs and producing BiTE antibodies
- Measuring the affinity of BiTE antibody binding to antigen using interferometry (Gator™, Probe Life) or ELISA-based assay
- Assessing T cell activation using reporter cell-based assays and measuring of Kd values using in vitro assay kits
- Evaluating bispecific constructs in reporter cell-based assays using BPS' selection of >200 antigen-expressing cancer cell lines

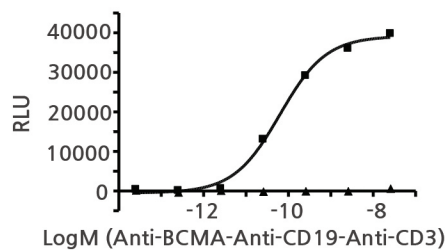


Activation of IL-2 Jurkat Reporter by CD19 x CD3 BiTE in the Presence of CD19+ Raji Cells



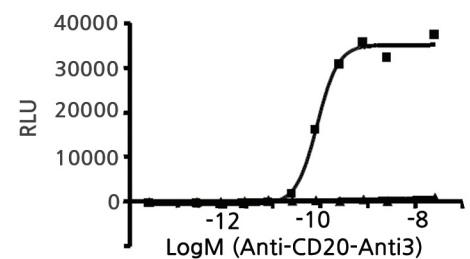
■ With Raji Cells
▲ Without Raji Cells

Activation of NFAT-Jurkat Reporter by BCMAxCD19xCD3 Antibody in the Presence of BCMA-CHO Cells or CHO Cells



■ BCMA-CHO
▲ CHO

Activation of NFAT-Jurkat Reporter by Anti-CD20-Anti-3



■ CD20-CHO
▲ CHO

Antibodies, Proteins, CAR-T Cell Lines

Product Listing

Antibodies	Catalog #	Size
Anti-BCMA Antibody (Single-Chain Variable Fragment), His-Tag	100173	50 µg 100 µg
Anti-BCMA-Anti-CD19-Anti-CD3-His Trispecific Antibody	100761	50 µg 100 µg
Anti-BCMA-Anti-CD3 Bispecific Antibody	100689	50 µg 100 µg
Anti-CD19-Anti-CD3 Bispecific Antibody	100441	50 µg 100 µg
Anti-CD20-Anti-CD3 Bispecific Antibody	100836	50 µg 100 µg

Proteins	Catalog #	Size
BCMA, Fc-fusion (IgG1), Avi-Tag, Biotin-Labeled	79467	25 µg 50 µg
BCMA, Fc-Fusion, Avi-Tag	79465	100 µg
BCMA, Fc-Fusion, Avi-Tag, PE-Labeled	100733	50 µg
c-Met, GST-tag	40255	10 µg
Carbonic Anhydrase 9 (CA9), His-tag	71101	100 µg
CD123, Avi-His-Tag	101035	100 µg
CD123, Fc-Fusion (IgG1) Avi-Tag	100058	100 µg
CD123, Fc-Fusion (IgG1) Avi-Tag, Biotin-Labeled	100068	25 µg 50 µg
CD19, Avi-His-Tag	101015	100 µg
CD19, Fc-Fusion (IgG1), Avi-Tag	79472	100 µg
CD19, Fc-Fusion (IgG1), Avi-Tag, Biotin-Labeled	79475	25 µg 50 µg
CD19, Fc-Fusion (IgG1), Avi-Tag, PE-labeled	100732	50 µg
CD20, Fc Fusion, Avi-Tag, PE-labeled	101027	50 µg
CD22, Fc Fusion, Avi-Tag, PE-labeled	101028	50 µg
CD22, Fc-fusion, Avi-Tag HiP™	79464	100 µg
CD22, Fc-fusion, Avi-Tag, Biotin-labeled HiP™	79466	25 µg 50 µg
CD30, Fc-Fusion (IgG1), Avi-Tag, Biotin-Labeled	72511	25 µg 50 µg
CD33, Fc Fusion, Avi-Tag, PE-labeled	101029	50 µg
CD38, Avi-His-Tag	100346	100 µg
CD38, His-Tag (Dog)	100955	100 µg
CD38, His-Tag (Human), HiP™	71277	100 µg

Proteins	Catalog #	Size
CD38, His-Tag (Mouse), HiP™	79070	100 µg
CD38, His-Tag, PE-labeled	71882	50 µg
CD38-APC, His-Tag	71883	100 µg
CD70, His-Tag (Mouse)	79066	100 µg
EGFR, His-tag, GST-tag	40187	10 µg
GPC3, Avi-His-Tag	100071	100 µg
HER2, GST-tag	40230	10 µg
LILRB4, Avi-His-Tag, HiP™	100236	100 µg
Mesothelin, Avi-His-Tag, Biotin-Labeled, HiP™	100291	25 µg 50 µg
Mesothelin, Avi-His-Tag, HiP™	100290	100 µg
MUC1 (CD227), Fc-Fusion (IgG1) Avi-Tag	100073	100 µg
Nectin4, His-Avi-Tag HiP™	100674	100 µg 1 mg
Nectin4, His-Avi-Tag, Biotin-labeled	100675	25 µg 50 µg
PD-L1 (CD274), FLAG-tag (Human) HiP™	71183	50 µg 500 µg
PSMA, His-Avi-Tag	100463	100 µg
ROR1, Fc-Fusion (IgG1), Avi-Tag	79481	100 µg 1 mg
ROR1, Fc-Fusion (IgG1), Avi-Tag, Biotin-Labeled	79482	50 µg
ROR1, GST-tag	40396	10 µg
ROR2, Fc-Fusion (IgG1), Avi-Tag HiP™	100029	100 µg
ROR2, Fc-Fusion (IgG1), Avi-Tag, Biotin-Labeled HiP™	100046	50 µg
ROR2, GST-tag	40296	10 µg

CAR-T Cell Lines	Catalog #	Size
Anti-BCMA CAR /NFAT (Luciferase) Reporter Jurkat Cell Line	79694	2 vials
Anti-CD19 CAR / NFAT (Luciferase) Reporter Jurkat Cell Line (CD19 SCFV-CD28-4-1BB-CD3ζ)	79853	2 vials
Anti-CD19 CAR negative control/ NFAT (Luciferase) Reporter Jurkat Cell Line (CD19 SCFV-CD28 transmembrane motif)	79854	2 vials
BCMA / CD20 / Firefly Luciferase CHO Cell Line	78185	2 vials
BCMA / GLuc - CHO Recombinant Cell Line	79830	2 vials

CAR-T Cell Lines, Primary Cells

Product Listing

CAR-T Cell Lines	Catalog#	Size
BCMA / Luciferase - CHO Recombinant Cell Line	79724	2 vials
BCMA / NF-κB – Reporter HEK293 Recombinant Cell Line	79755	2 vials
BCMA CHO Recombinant Cell Line (High or Low Expression)	79500	2 vials
CD123 (IL3Ra) - CHO Recombinant Cell Line (High, Medium, or Low Expression)	79640	2 Vials
CD19 / BCMA / Firefly Luciferase - CHO Recombinant Cell Line	78030	2 vials
CD19 / CD20 / Firefly Luciferase CHO Cell Line	78186	2 vials
CD19 / Firefly Luciferase - CHO Recombinant Cell Line	79714	2 vials
CD19 CHO Recombinant Cell Line (Low, Medium and High Expression)	79561	2 vials
CD20 CHO Recombinant Cell Line (High or Medium Expression)	79624	2 Vials
CD22 / Luciferase - CHO Recombinant Cell Line	79715	2 vials
CD22 CHO Recombinant Cell Line (Medium and High Expression)	79557	2 vial
CD33- CHO K1 Recombinant Cell Line (High, Medium and Low Expression)	79935	2 vials
CD37 CHO Recombinant Cell Line (High or Low Expression)	79607	2 Vials
CD38 / BCMA / Firefly Luciferase CHO Recombinant Cell Line	78148	2 vials
CD38 / CD19 / Firefly Luciferase CHO Recombinant Cell Line	78149	2 vials
CD38 CHO Recombinant Cell Line (High, Medium or Low Expression)	79615	2 Vials
CD47 - HEK293 Cell Line	71249	2 vials
CD70-CHO Recombinant Cell line	79510	2 vials
FAP- CHO K1 Recombinant Cell Line (High, Medium or Low Expression)	79947	2 vials
Firefly Luciferase - CHO Recombinant Cell Line	79725	2 Vials
HER2 (ERBB2) CHO Recombinant Cell Line (High, Medium, or Low Expression)	79612	2 Vials
Human Mesothelin – CHO-K1 Recombinant Cell Line	78132	2 vials
LILRB4 NFAT-Luciferase Reporter Jurkat Recombinant Cell Line	79750	2 vials
Nectin4 – CHO K1 Recombinant Cell Line	78097	2 vials
PD-L1 - CHO Recombinant Cell Line	60543	2 vials
PSMA (FOLH1) - CHO Recombinant Cell Line (High, Medium, or Low Expression)	79641	2 Vials
ROR1 CHO Recombinant Cell Line	79609	2 Vials
SLAMF7 (CS1) CHO Recombinant Cell Line (High, Medium, or Low Expression)	79608	2 Vials

CAR-T Cell Lines	Catalog#	Size
TCR Knockout NFAT-Luciferase Reporter Jurkat Recombinant Cell Line	79887	2 vials
TROP2 – CHO-K1 Recombinant Cell Line	78099	2 vials

Primary Cells	Catalog#	Size
CD4+ T cells, Negatively Selected (Human)	79752	10 million cells
CD8+ T cells, Negatively Selected (Human)	79753	10 million cells
Normal Human Peripheral Blood Mononuclear Cells, Frozen	79059	30 million cells 100 million cells



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