Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

H_BDCA2 Reporter Jurkat Cell Line

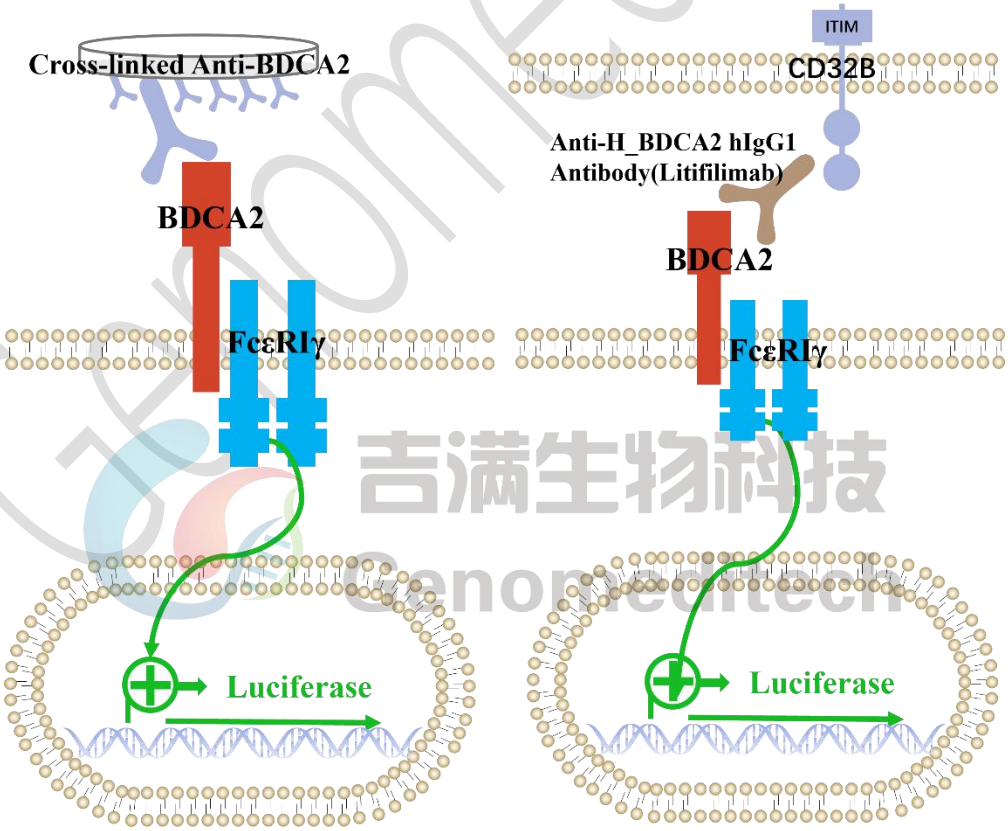
Catalog number: GM-C13225

Version 3.3.1.241119

Blood dendritic cell antigen 2 (BDCA2) is a C-type lectin that is expressed on plasmacytoid dendritic cells (pDC) and is associated with the pathogenesis of lupus. BDCA2 is composed of a single extracellular carbohydrate recognition domain (CRD) at its C-terminus, which belongs to the class II C-type lectin group, a transmembrane region, and a short cytoplasmic tail at its N-terminus that lacks a signaling motif. BDCA2 transmits intracellular signals through the associated transmembrane adaptor FcεRIγ, inducing B cell receptor (BCR)-like signaling cascades. However, the effectiveness of using humanized anti-BDCA2 monoclonal antibodies to reduce disease activity in patients with cutaneous lupus has not been extensively studied.

H_BDCA2 Reporter Jurkat Cell Line is a clonal stable Jurkat cell line constitutively expressing human BDCA2 and FcεRIγ gene, along with signal-dependent expression of a luciferase reporter gene.

The binding of the precoated agonistic antibodies to BDCA2 activates downstream reporter genes, leading to luciferase expression. The luciferase readout represents the activation level of the signaling pathway and can thus be used for evaluating the in vitro effects of related drugs of BDCA2.



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Specifications

Quantity	5E6 Cells per vial,1 mL
Product Format	1 vial of frozen cells
Shipping	Shipped on dry ice
Storage Conditions	Liquid nitrogen immediately upon receipt
Recovery Medium	RPMI 1640+10% FBS+1% P.S
Growth medium	PRMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+400 μg/mL G418+0.75 μg/mL Puromycin
Note	None
Freezing Medium	90% FBS+10%DMSO
Growth properties	Suspension
Growth Conditions	37°C, 5% CO_2
Mycoplasma Testing	The cell line has been screened to confirm the absence of Mycoplasma species.
Safety considerations	Biosafety Level 2
Note	It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use.

Materials

Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
G418	Genomeditech/GM-040402
Puromycin	Genomeditech/GM-040401
Clear Flat-Bottom Immuno Nonsterile 96-Well Plates	Thermo/442404
H_FCGR2B(CD32B) CHO-K1 Cell Line	Genomeditech/GM-C16925
Anti-H_BDCA2 hIgG1 Antibody(Litifilimab)	Genomeditech/GM-31294AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

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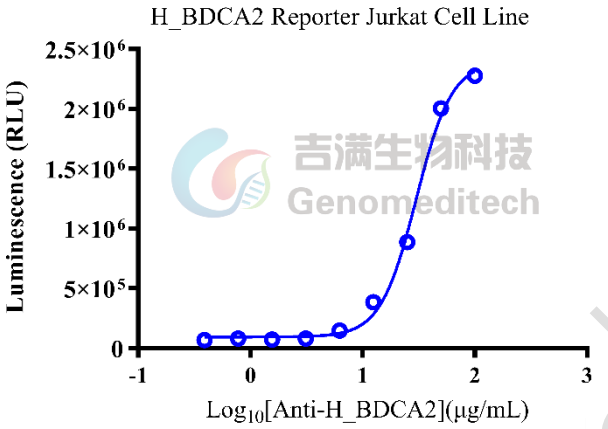
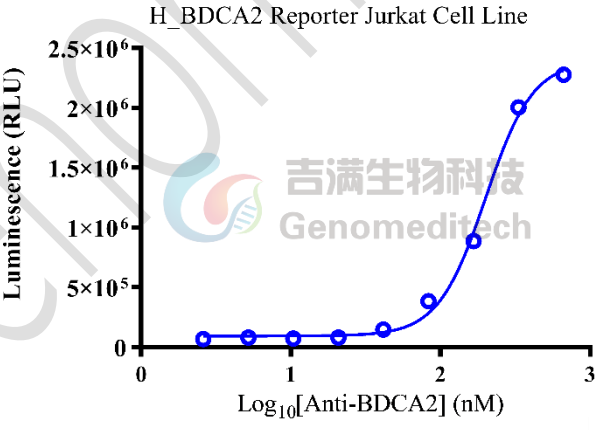
Figures



	H_BDCA2 Reporter Jurkat Cell Line
EC50	30.08

Figure 1 | Response to Anti-H_BDCA2 hIgG1 Antibody(Litifilimab). The Anti-H_BDCA2 hIgG1 Antibody (Litifilimab, Cat. GM-31294AB) was coated onto a 96-well plate overnight at 4°C. Subsequently, the H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) was diluted in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) to a concentration of 1E5 cells per well, and the cells were incubated with the coated antibody for an additional 24 hours. The firefly luciferase activity was measured using the ONE-GloTM Luciferase Assay System (Promega/E6120). The maximum induction fold was approximately [33]. Data are shown by drug mass concentration.



	H_BDCA2 Reporter Jurkat Cell Line
EC50	200.5

Figure 2 | Response to Anti-H_BDCA2 hIgG1 Antibody(Litifilimab). The Anti-H_BDCA2 hIgG1 Antibody (Litifilimab, Cat. GM-31294AB) was coated onto a 96-well plate overnight at 4°C. Subsequently, the H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) was diluted in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) to a concentration of 1E5 cells per well, and the cells were incubated with the coated antibody for an additional 24 hours. The firefly luciferase activity was measured using the ONE-GloTM Luciferase Assay System (Promega/E6120). The maximum induction fold was approximately [33]. Data are shown by drug molar concentration.

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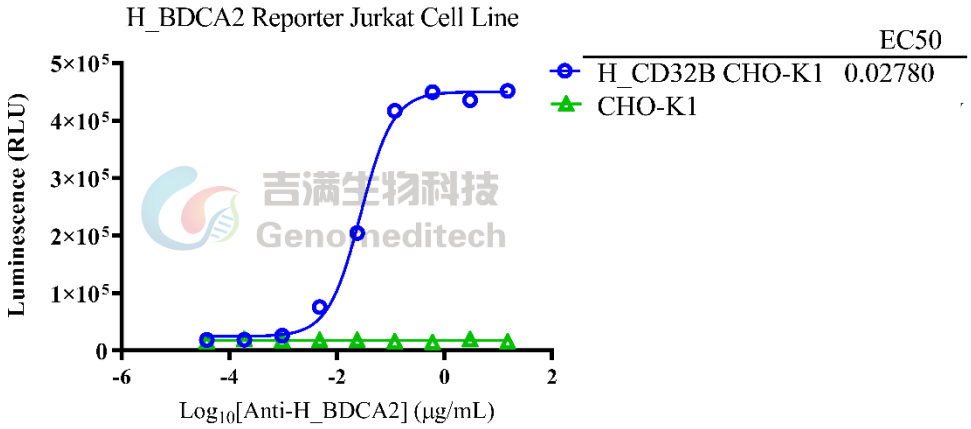


Figure 3 | Response to Anti-H_BDCA2 hIgG1 Antibody. The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. GM-C16925) and the CHO-K1 Cell Line were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-H_BDCA2 hIgG1 Antibody (Litifilimab, Cat. GM-31294AB) and the H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) at a concentration of 1E5 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 16 hours. Firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [26.7]. Data are presented based on drug mass concentration.

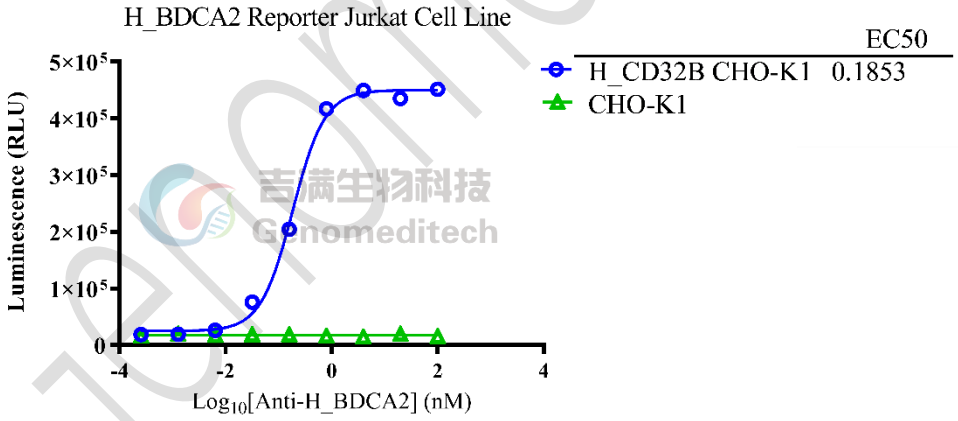


Figure 4 | Response to Anti-H_BDCA2 hIgG1 Antibody. The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. GM-C16925) and the CHO-K1 Cell Line were seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-H_BDCA2 hIgG1 Antibody (Litifilimab, Cat. GM-31294AB) and the H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) at a concentration of 1E5 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 16 hours. Firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [26.7]. Data are presented based on drug molar concentration.

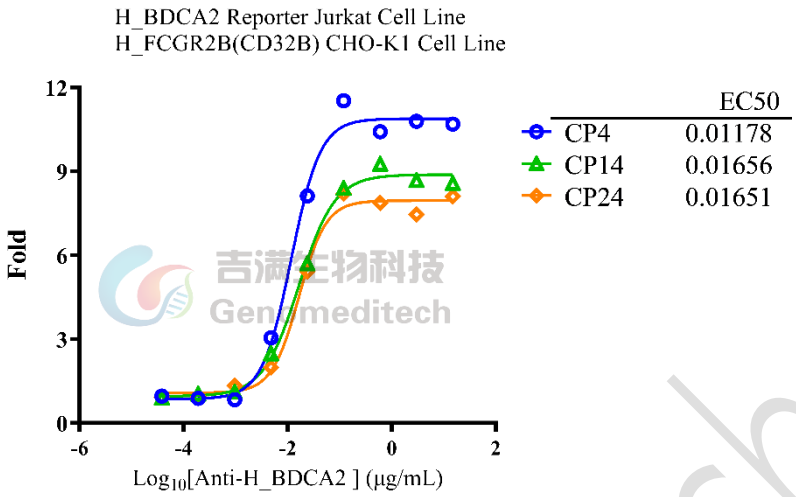
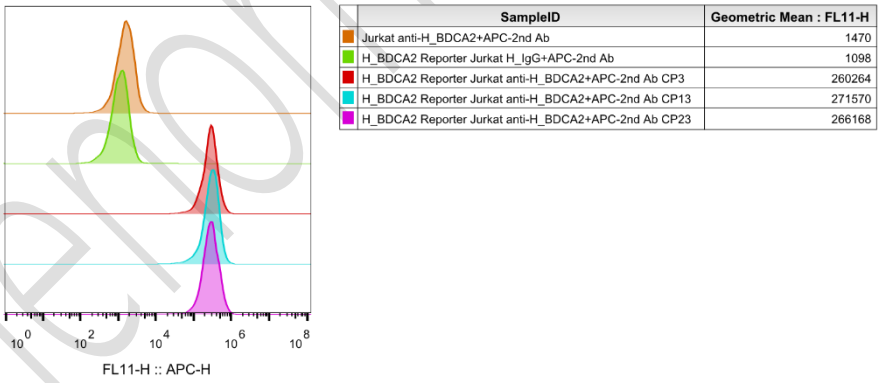


Figure 5 | The passage stability of response to Anti-H_BDCA2 hIgG1 Antibody. The H_FCGR2B (CD32B) CHO-K1 Cell Line (Cat. GM-C16925) was seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of Anti-H_BDCA2 hIgG1 Antibody (Litifilimab, Cat. GM-31294AB) and the passage 4, 14, and 24 of H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) at a concentration of 1E5 cells per well were added to the pre-seeded cells. The mixture was incubated for an additional 16 hours. Firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are presented based on drug mass concentration.



SampleID	Geometric Mean : FL11-H
Jurkat anti-H_BDCA2+APC-2nd Ab	1470
H_BDCA2 Reporter Jurkat H_IgG+APC-2nd Ab	1098
H_BDCA2 Reporter Jurkat anti-H_BDCA2+APC-2nd Ab CP3	260264
H_BDCA2 Reporter Jurkat anti-H_BDCA2+APC-2nd Ab CP13	271570
H_BDCA2 Reporter Jurkat anti-H_BDCA2+APC-2nd Ab CP23	266168

Figure 6 | The passage stability of the H_BDCA2 Reporter Jurkat Cell Line (Cat. GM-C13225) was determined by flow cytometry using Anti-H_BDCA2 hIgG1 Antibody (litifilimab) (Cat. GM-31294AB).

Cell Recovery

Recovery Medium: RPMI 1640+10% FBS+1% P.S

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To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

a) Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 - 3 minutes).
b) Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
c) Transfer the vial contents to a centrifuge tube containing 5.0 mL complete culture medium. And spin at approximately 176 x g for 5 minutes. Discard supernatant.
d) Resuspend cell pellet with the recommended complete medium. And dispense the suspension into 1 - 2 T-25 culture flasks.
e) Incubate the culture at 37°C in a suitable incubator. A 5% CO_2 in air atmosphere is recommended if using the medium described on this product sheet.

Cell Freezing

Freezing Medium: 90% FBS+10%DMSO

a) Centrifuge at 176 x g for 3 minutes to collect cells.
b) Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5E6 cells/mL.
c) Aliquot 1 mL into each vial.
d) Place the vial in a controlled-rate freezing container and store at -80°C for at least 1 day, then transfer to liquid nitrogen as soon as possible.

Cell passage

Growth medium: PRMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+400 μg/mL G418+0.75 μg/mL Puromycin

Approximately 48-72 hours after the initial thawing, the cells can be passaged for the first time. After this initial passage, the culture medium can be adjusted to growth medium supplemented with antibiotics. If cells are not passaged within 48 hours, it is recommended to add some fresh recovery medium and place the flask horizontally.

a) When the cell density reaches 1.5 - 2E6 cells/mL, subculture the cells. Do not allow the cell density to exceed 2E6 cells/mL.
b) It is recommended to use T-25 flasks for subculturing.
c) These cells are suspension cells, and it is recommended to use the "half-medium change" method to maintain optimal cell conditions during passaging.
d) During passaging, you can directly add fresh growth medium to the culture flask, gently pipette to resuspend the cells, and then transfer the cell suspension to a new T-25 flask for continued culture.

Subcultivation Ratio: Maintain cultures at a cell concentraion between 3E5 and 1E6 viable cells/mL.

Medium Renewal: Every 2 to 3 days

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Notes

a) These cells are sensitive to density, so please ensure that the cell density is maintained within an appropriate range during culture and subculturing.

b) During the first passage, pay attention to the nutrient supply; if not subculturing, make sure to add fresh recovery medium every other day as needed.

Related Products

CD40：CD40L	
H_CD40(TNFRSF5) Reporter 293 Cell Line	H_CD40(TNFRSF5) Reporter Jurkat Cell Line
Cynomolgus_CD40 CHO-K1 Cell Line	Cynomolgus_CD40L CHO-K1 Cell Line
H_CD40(TNFRSF5) CHO-K1 Cell Line	H_CD40(TNFRSF5) HEK-293 Cell Line
H_CD40L CHO-K1 Cell Line	H_CD40L HEK-293 Cell Line
Anti-H_CD40 hIgG1 Antibody(APX005M)	Anti-H_CD40 hIgG1 Antibody(ravagalimab)
Anti-H_CD40L hIgG1 Antibody(dapirolizumab)	Anti-H_CD40L hIgG1 Antibody(frexalimab)
IFN-α	
IFNα Reporter HEK-293 Cell Line	IFNα Reporter MDCK Cell Line
IFNα Reporter THP1 Cell Line	
BCMA:BAFFR:TACI	
H_BAFFR Reporter Cell Line	H_BCMA Reporter Cell Line
H_TACI Reporter Cell Line	Cynomolgus_BCMA CHO-K1 Cell Line
H_BCMA CHO-K1 Cell Line	H_BCMA HEK-293 Cell Line
Anti-BAFF hlgG1 Antibody(belimumab)	Anti-BAFFR hlgG1 Antibody(ianalumab)
Anti-BCMA hIgG1 Antibody(Belantamab)	Anti-BCMA hIgG1 Antibody(SEA-BCMA)
Anti-BCMA hIgG4 Antibody(BCMB69)	
Biotinylated Human BAFF Protein; His-Avi Tag	Cynomolgus BAFF Protein; His Tag
Human BAFF Protein; His Tag	Mouse BAFF Protein; His Tag
BDCA2(CLEC4C)	
Cynomolgus_BDCA2 CHO-K1 Cell Line	Cynomolgus_BDCA2 Jurkat Cell Line
H_BDCA2 CHO-K1 Cell Line	H_BDCA2 HEK-293 Cell Line
H_BDCA2 Jurkat Cell Line	
Anti-H_BDCA2 hIgG1 Antibody(Litifilimab)	
Cynomolgus BDCA2 Protein; His Tag	Human BDCA2 Protein; His Tag

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