Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

Product Sheet

ADCP FcγRIIb Jurkat Effector Cell Line

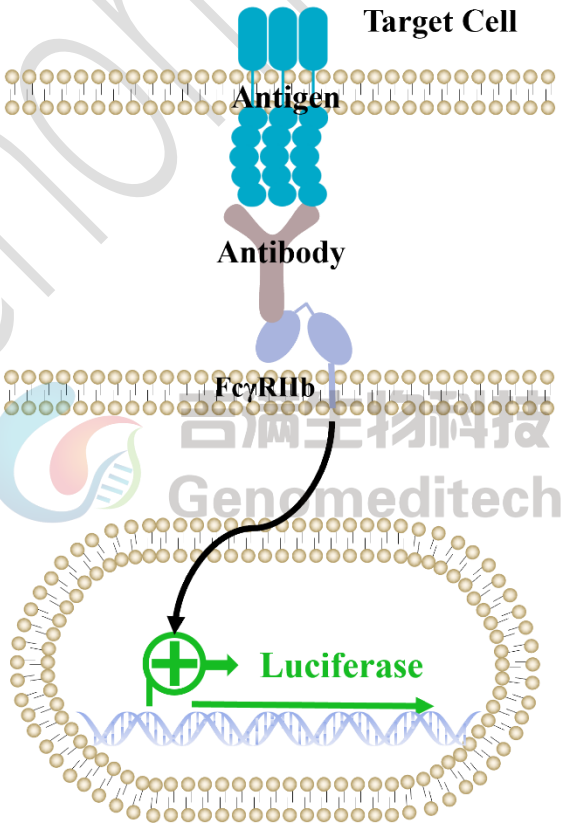
Catalog number: GM-C26215

Version 3.3.1.241218

ADCP, or antibody-dependent cellular phagocytosis, is a process where immune cells with Fc receptors recognize the Fc region of antibodies and phagocytose antibody-bound target cells. This mechanism is now used to evaluate antibody efficacy. The antibody's Fab region binds to the target antigen, while its Fc region interacts with FcγRIIb receptors on effector cells (mainly macrophages), triggering ADCP and leading to target cell phagocytosis. Traditional ADCP assays use donor-derived macrophages, but these cells are variable, hard to prepare, and prone to high background signals.

FcγRIIb (Fc gamma receptor IIb) is a low-affinity receptor for the Fc region of immunoglobulin G (IgG) and is the only Fcγ receptor with inhibitory functions. It is expressed on various immune cells, including B cells, dendritic cells, macrophages, and neutrophils. FcγRIIb plays a critical role in regulating immune responses by dampening activation signals, maintaining immune homeostasis, and preventing excessive inflammation or autoimmunity.

ADCP FcγRIIb Jurkat Effector Cell Line is a clonal stable Jurkat cell line constructed using lentiviral technology, constitutive expression of the FcγRIIb gene, along with signal-dependent expression of a luciferase reporter gene. When IgG binds to target cells and effector cells, it leads to the expression of luciferase, which can be used to evaluate the biological activity of antibodies in the mechanism of ADCP.



Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

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	RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+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.

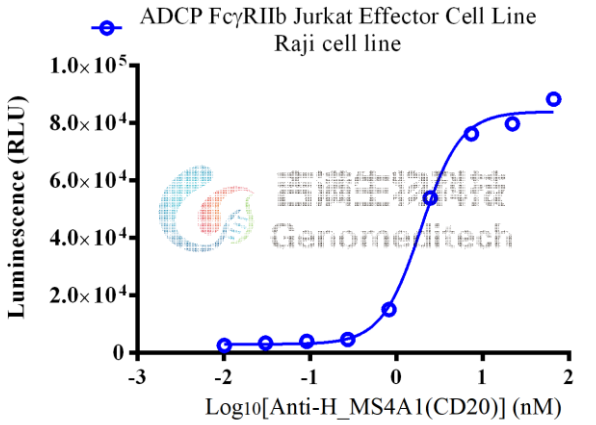
Materials

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
Puromycin	Genomeditech/GM-040401
Raji Cell Line	Genomeditech/GM-C19100
APC anti-human CD32B/C	Biolegend/398304
Anti-H_MS4A1(CD20) hIgG1 Antibody(Ocrelizumab)	Genomeditech/GM-27200AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Genomeditech

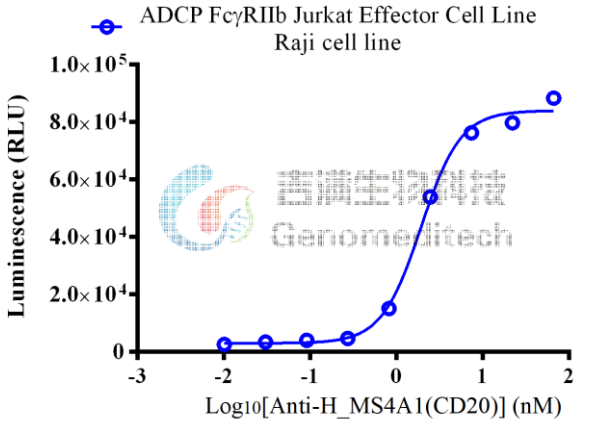
Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

Figures



	ADCP FcγRIIb Jurkat Effector
EC50	1.938

Figure 1 | Ocrelizumab-mediated ADCP assays on Raji cells. The ADCP FcγRIIb Jurkat Effector Cell Line (Cat. GM-C26215) at a concentration of 1E5 cells/well was co-cultured with Raji cells (Cat. GM-C19100) that express CD20 endogenously at a concentration of 2E4 cells/well, in the presence of serial dilutions of the Anti-H_MS4A1(CD20) hIgG1 Antibody(Ocrelizumab) (Cat. GM-27200AB) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 6 hours (96-well format). The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [40.5]. Data are shown by drug mass concentration.



	ADCP FcγRIIb Jurkat Effector
EC50	1.938

Figure 2 | Ocrelizumab-mediated ADCP assays on Raji cells. The ADCP FcγRIIb Jurkat Effector Cell Line (Cat. GM-C26215) at a concentration of 1E5 cells/well was co-cultured with Raji cells (Cat. GM-C19100) that express CD20 endogenously at a concentration of 2E4 cells/well, in the presence of serial dilutions of the Anti-H_MS4A1(CD20) hIgG1 Antibody(Ocrelizumab) (Cat. GM-27200AB) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 6 hours (96-well format). The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit

(Cat. GM-040503). The maximum induction fold was approximately [40.5]. Data are shown by drug molar concentration.

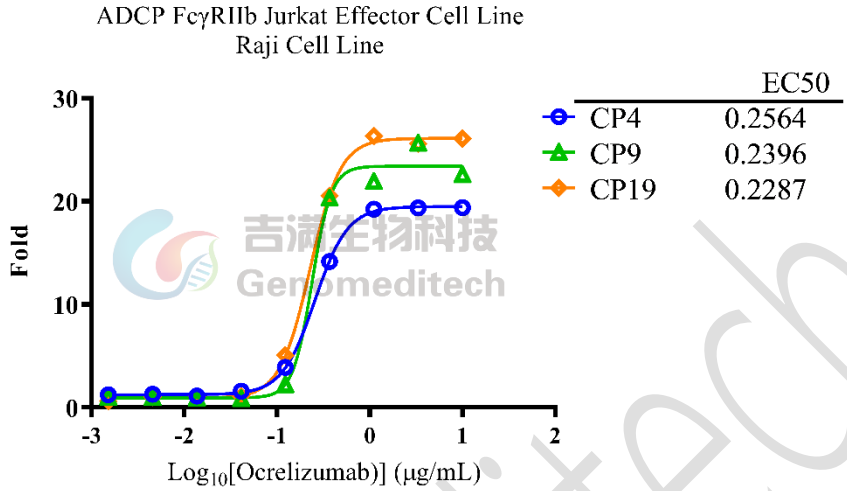


Figure 3 | Ocrelizumab-mediated ADCP assays on Raji cells. The the passage 4, 9 and 19 of ADCP FcγRIIb Jurkat Effector Cell Line (Cat. GM-C26215) at a concentration of 1E5 cells/well was co-cultured with Raji cells (Cat. GM-C19100) that express CD20 endogenously at a concentration of 2E4 cells/well, in the presence of serial dilutions of the Anti-H_MS4A1(CD20) hIgG1 Antibody(Ocrelizumab) (Cat. GM-27200AB) in assay buffer (RPMI 1640+1% FBS+1% P.S) for 6 hours (96-well format). The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). Data are shown by drug mass concentration.

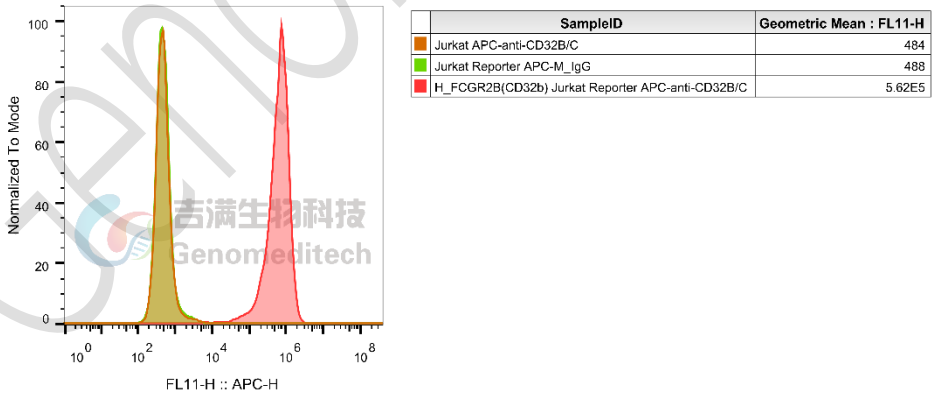


Figure 4 | ADCP FcγRIIb Jurkat Effector Cell Line (Cat. GM-C26215) was determined by flow cytometry using APC anti-human CD32B/C (Cat. Biolegend/398304).

Genomeditech (Shanghai) Co.,Ltd.
Order: +86 021-68455258/50432826/50432825
Toll-free: +86 400 627 9288
Email: service@genomeditech.com

Cell Recovery

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

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: RPMI 1640+10% FBS+1% P.S+3.5 μg/mL Blasticidin+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

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

FcγR	
Cynomolgus_FcRn MDCK Cell Line	H_FCGR1A(CD64) CHO-K1 Cell Line
H_FCGR1A(CD64) HEK-293 Cell Line	H_FCGR2A(CD32A) CHO-K1 Cell Line
H_FCGR2B(CD32B) CHO-K1 Cell Line	H_FCGR3A(CD16a) 158F CHO-K1 Cell Line
H_FCGR3A(CD16a) 158V CHO-K1 Cell Line	H_FCGR3B(CD16b) CHO-K1 Cell Line
H_FcRn CHO-K1 Cell Line	H_FcRn MDCK Cell Line
Mouse_FcRn MDCK Cell Line	
Anti-FcRn hIgG4 Reference Antibody(Rozabio)	Anti-H_FcRn IgG4 Antibody(Rozanolixizumab)
Anti-Mouse CD1632 mIgG2b Antibody(2.4G2)	
ADCCP	
ADCC FcγRIIIa(158F) Jurkat Effector Cell Line	ADCC FcγRIIIa(158V) DDX35TM Jurkat Effector Cell Line
ADCC FcγRIIIa(158V) Jurkat Effector Cell Line	ADCC M_FcγRIV Jurkat Effector Cell Line
ADCP FcγRIIa DDX35TM Jurkat Effector Cell Line	ADCP FcγRIIa Jurkat Effector Cell Line
ADCP FcγRIIa R131 Jurkat Effector Cell Line	

Limited Use License Agreement

Genomeditech (Shanghai) Co., Ltd grants to the Licensee all intellectual property rights, exclusive, non-transferable, and non-sublicensable rights of the Licensed Materials; Genomeditech (Shanghai) Co., Ltd will retain ownership of the Licensed Materials, cell line history packages, progeny, and the Licensed Materials including modified materials.

Between Genomeditech (Shanghai) Co., Ltd, and Licensee, Licensee is not permitted to modify cell lines in any way. The Licensee shall not share, distribute, sell, sublicense, or otherwise provide the Licensed Materials, or progenitors to third parties such as laboratories, departments, research institutions, hospitals, universities, or biotechnology companies for use other than for the purpose of outsourcing the Licensee's research.

Please refer to the Genomeditech Cell Line License Agreement for details.