Genomeditech (Shanghai) Co.,Ltd.
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Product Sheet

H_BCMA Reporter Cell Line

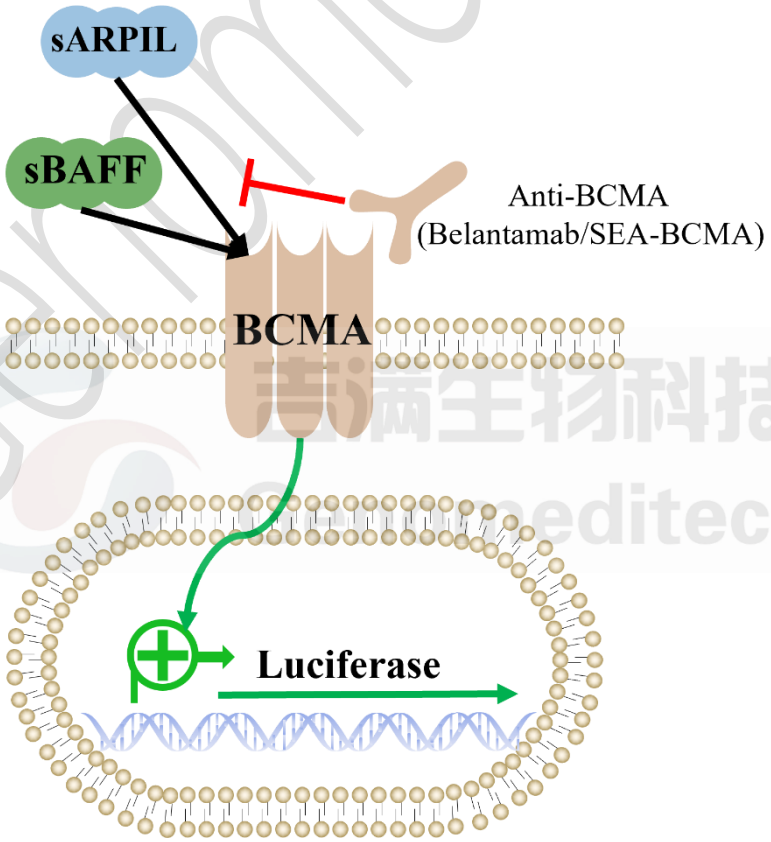
Catalog number: GM-C25349

Version 3.3.1.250314

BCMA (B-cell maturation antigen) is a protein expressed on mature B cells and plasma cells, regulating their survival, proliferation, and differentiation. It is crucial in B cell-related diseases, particularly multiple myeloma (MM), where its levels are elevated, making it a key therapeutic target.

The BCMA signaling pathway is mainly activated by binding to its ligands (such as APRIL and BAFF), which triggers downstream signal transduction. The activation of BCMA can promote the survival and proliferation of B cells through signaling pathways such as NF-κB, MAPK, and PI3K/Akt. The activation of these signaling pathways not only aids in the development and function of B cells but is also closely related to the survival and drug resistance of tumor cells.

H_BCMA Reporter Cell Line is a clonal stable cell line constructed using lentiviral technology, constitutive expression of the BCMA gene, along with signal-dependent expression of a luciferase reporter gene. When BAFF/APRIL binds to BCMA, it activates downstream signaling pathways, leading to the expression of luciferase. Blockade antibodies can inhibit this signal transmission. The luciferase activity measurement indicates the activation level of the signaling pathway and can thus be used to evaluate the in vitro effects of drugs related to BCMA.



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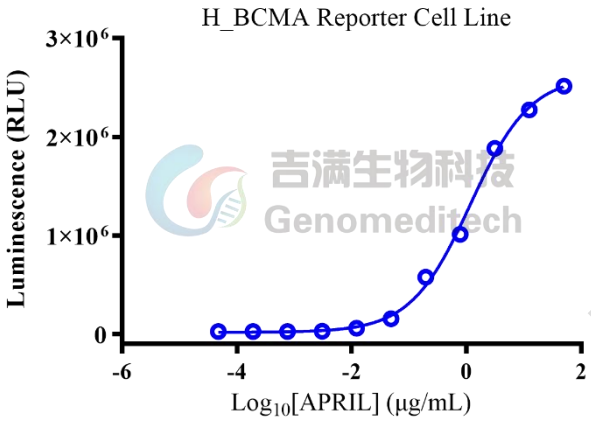
Specifications

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	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

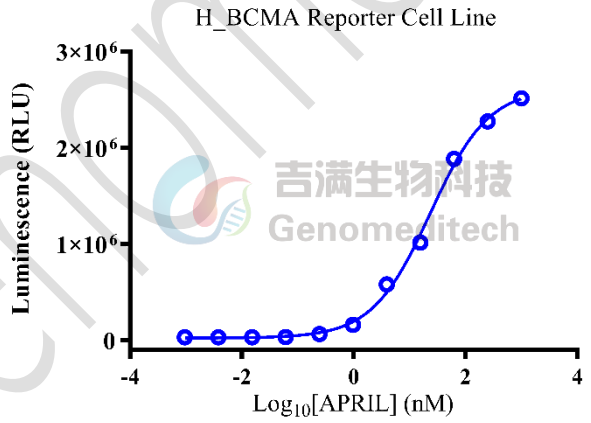
Reagent	Manufacturer/Catalogue No.
RPMI 1640	VivaCell/C3010-0500
Fetal Bovine Serum	Cegrogen biotech/A0500-3010
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
Recombinant Human APRIL (N-Flag-His)	Novoprotein/CU89
Human BAFF Protein; His Tag	Genomeditech/GM-87735RP
Anti-BCMA hIgG1 Antibody(SEA-BCMA)	Genomeditech/GM-49486AB
Anti-BCMA hIgG1 Antibody(Belantamab)	Genomeditech/GM-52396AB
GMOne-Step Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040503

Figures



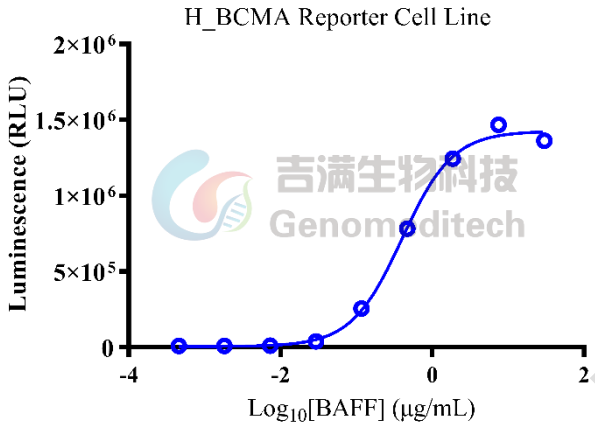
	H_BCMA Reporter Cell Line
EC50	1.179

Figure 1 | Response to Recombinant Human APRIL (N-Flag-His). H_BCMA Reporter Cell Line (Cat. GM-C25349) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human APRIL (N-Flag-His) (novoprotein/CU89) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [91.6]. Data are shown by drug mass concentration.



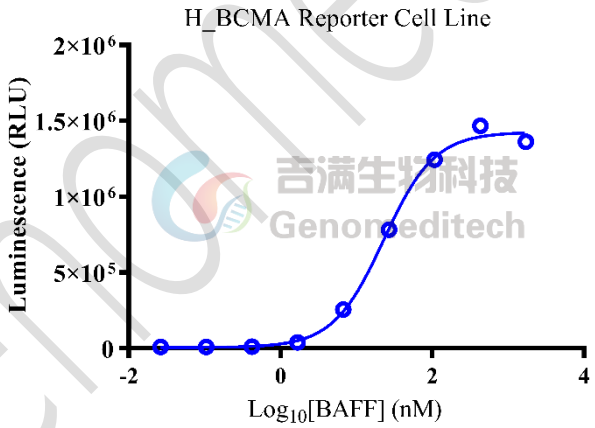
	H_BCMA Reporter Cell Line
EC50	23.58

Figure 2 | Response to Recombinant Human APRIL (N-Flag-His). H_BCMA Reporter Cell Line (Cat. GM-C25349) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Recombinant Human APRIL (N-Flag-His) (novoprotein/CU89) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503) (Cat. GM-040503). The maximum induction fold was approximately [91.6]. Data are shown by drug molar concentration.



	H_BCMA Reporter Cell Line
EC50	0.4004

Figure 3 | Response to Human BAFF Protein; His Tag . H_BCMA Reporter Cell Line (Cat. GM-C25349) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human BAFF Protein; His Tag (Cat. GM-87735RP) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [150.5]. Data are shown by drug mass concentration.



	H_BCMA Reporter Cell Line
EC50	23.01

Figure 4 | Response to Human BAFF Protein; His Tag . H_BCMA Reporter Cell Line (Cat. GM-C25349) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human BAFF Protein; His Tag (Cat. GM-87735RP) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. The firefly luciferase activity was measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The maximum induction fold was approximately [150.5]. Data are shown by drug molar concentration.

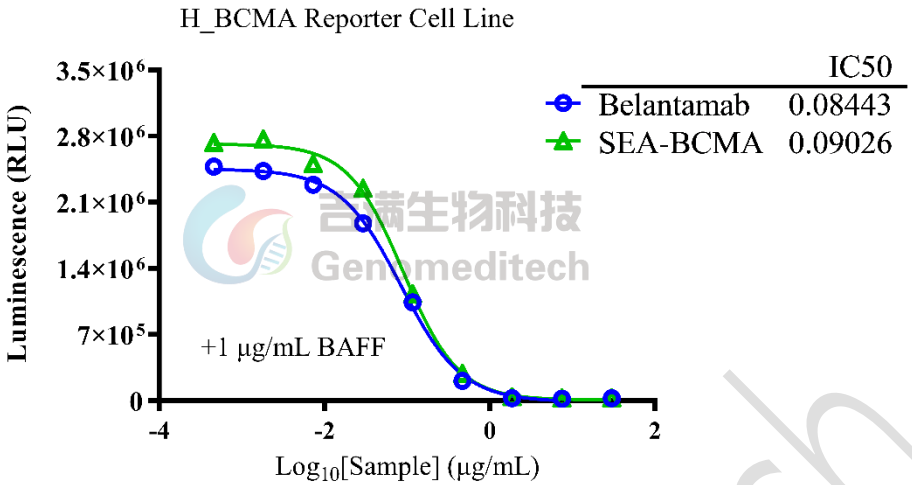


Figure 5 | Response to Anti-BCMA hIgG1 Antibody. Serial dilutions of the Anti-BCMA hIgG1 Antibody(SEA-BCMA) (Cat. GM-49486AB) and Anti-BCMA hIgG1 Antibody(Belantamab) (Cat. GM-52396AB) were incubated with 1E5 cells/well of the H_BCMA Reporter Cell Line (Cat. GM-C25349) in a 96-well plate for 1 hour. Subsequently, the Human BAFF Protein;His Tag (Cat. GM-87735RP) at a concentration of 100 ng/well was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity was then measured using the GMOne-Step Luciferase Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [115.8] and . Data are shown by drug mass concentration.

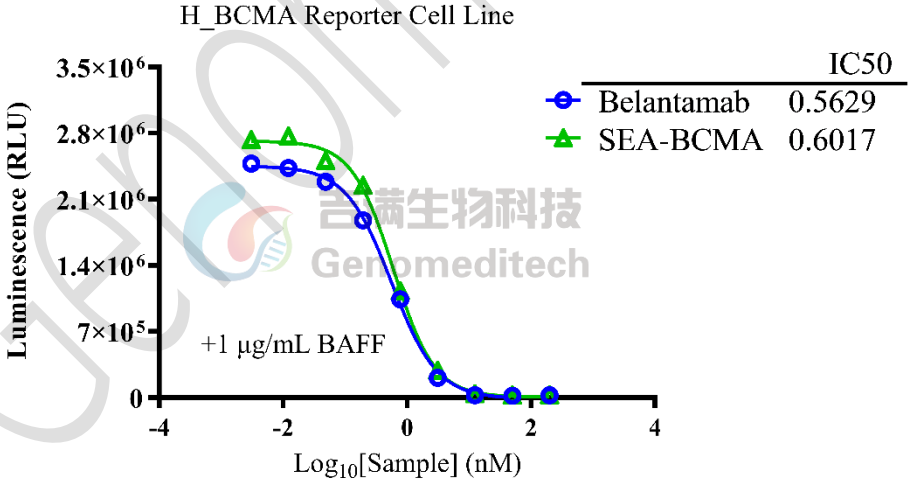
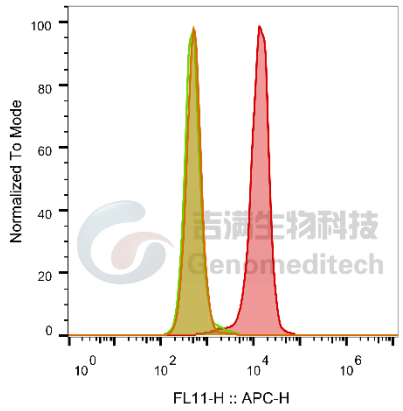


Figure 6 | Response to Anti-BCMA hIgG1 Antibody. Serial dilutions of the Anti-BCMA hIgG1 Antibody(SEA-BCMA) (Cat. GM-49486AB) and Anti-BCMA hIgG1 Antibody(Belantamab) (Cat. GM-52396AB) were incubated with 1E5 cells/well of the H_BCMA Reporter Cell Line (Cat. GM-C25349) in a 96-well plate for 1 hour. Subsequently, the Human BAFF Protein;His Tag (Cat. GM-87735RP) at a concentration of 100 ng/well was added, and the coculture proceeded for an additional 6 hours. Firefly luciferase activity was then measured using the GMOne-Step Luciferase

Reporter Gene Assay Kit (Cat. GM-040503). The results indicated maximum blocking folds of approximately [115.8] and . Data are shown by drug molar concentration.



SampleID	Geometric Mean : FL11-H
Null Cell anti-BCMA+APC-2nd Ab	529
H_BCMA Reporter Cell H_IgG+APC-2nd Ab	508
H_BCMA Reporter Cell anti-BCMA+APC-2nd Ab	12898

Figure 7 | H_BCMA Reporter Cell Line (Cat. GM-C25349) was determined by flow cytometry using Anti-BCMA hIgG1 Antibody(Belantamab) (Cat. GM-52396AB).

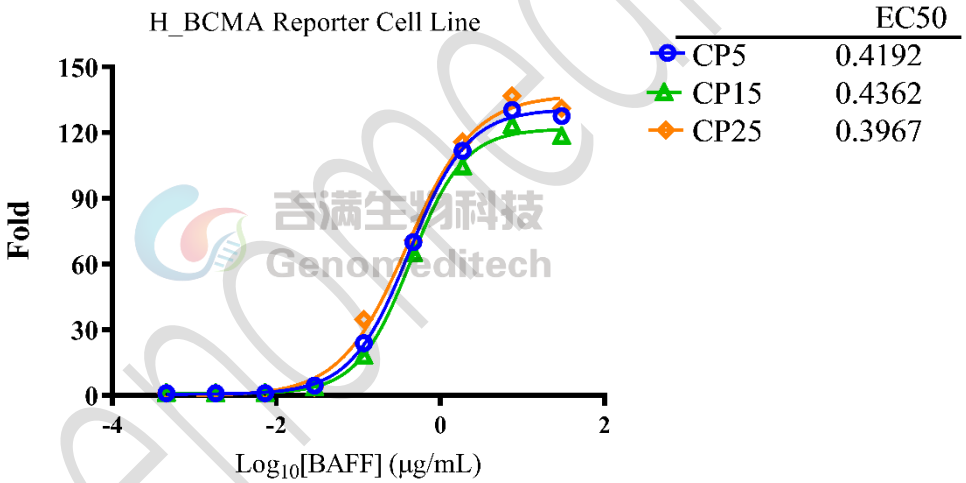


Figure 8 | The passage stability of response to Human BAFF Protein; His Tag . The passage 5, 15 and 25 of H_BCMA Reporter Cell Line (Cat. GM-C25349) at a concentration of 1E5 cells/well (96-well format) was stimulated with serial dilutions of Human BAFF Protein; His Tag (Cat. GM-87735RP) in assay buffer (RPMI 1640 + 1% FBS + 1% P.S) for 6 hours. 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.

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: 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

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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)
Biotinylated Human CD40 Protein; His-Avi Tag	Cynomolgus CD40 Protein; His Tag
Human CD40 Protein; His Tag	Human CD40L Protein; His Tag
IFN-α	
IFNα Reporter HEK-293 Cell Line	IFNα Reporter MDCK Cell Line
IFNα Reporter THP1 Cell Line	
BCMA:BAFFR:TACI	
H_BAFFR Jurkat Blockade Reporter Cell Line	H_BAFFR 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 hIgG1 Antibody(belimumab)	Anti-BAFFR hIgG1 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)	
H_BDCA2 Reporter Jurkat Cell Line	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
CD3	
Jurkat CD3-BsAb Reporter Cell Line	Cynomolgus_CD3 HEK-293 Cell Line
Cynomolgus_CD3E(Membrane Bound ECD) CHO-K1 Cell Line	H_CD3 CHO-K1 Cell Line
H_CD3 HEK-293 Cell Line	H_CD3E(Membrane Bound ECD) CHO-K1 Cell Line

Mouse_CD3 HEK-293 Cell Line	
Anti-CD3 epsilon hIgG1 Antibody [OKT-3 (muromonab)]	Anti-CD3 hIgG1 Antibody(CH2527)

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