

Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human PD-L1-Medium Expression) Data Sheet

Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human PD-L1-Medium Expression)

Catalog Number: CK-014

Components	Catalog No.	Size
Human 4-1BB (Luc) HEK293 Reporter Cell	CHEK-ATF073	2 × (1 vial contains ~5×10 ⁶ cells)
CHO/Human PD-L1 Stable Cell Line (Medium Expression)	SCCHO-ATP077M	2 × (1 vial contains ~5×10 ⁶ cells)

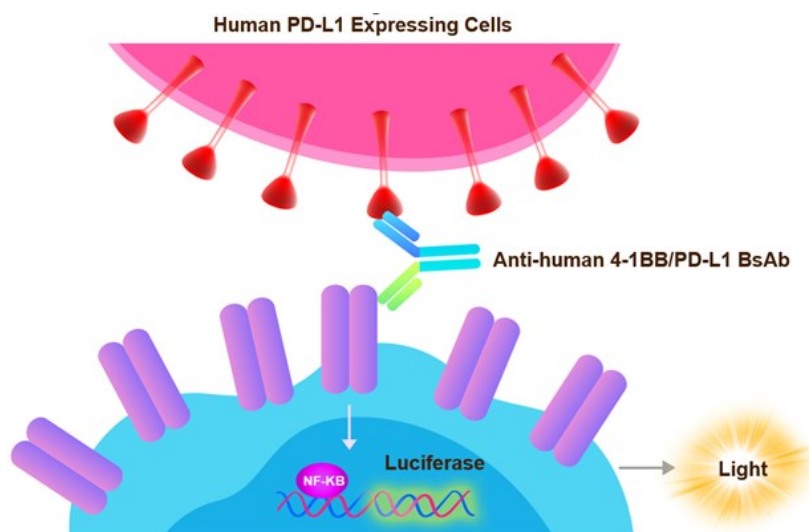
• Description

The Cell-based Kit consists of two engineered cell lines, Human 4-1BB (Luc) HEK293 Reporter Cell (Cat.No.CHEK-ATF073) and CHO/Human PD-L1 Stable Cell Line (Medium Expression) (Cat.No.SCCHO-ATP077M).

The Human 4-1BB (Luc) HEK293 Reporter Cell was engineered to not only express NF-κB signaling response element, but also express the receptor full length human 4-1BB (Gene ID: 3604), which can drive luciferase expressing systems by 4-1BB ligand/ agonist antibody stimulation. The CHO/Human PD-L1 Stable Cell Line was engineered to express full length human PD-L1 receptor (Gene ID: 29126), with different levels of PD-L1 expression (High, Medium, Low), which can be used to mimic cancer target cells with various PD-L1 expression levels. When co-cultured with Human 4-1BB (Luc) HEK293 Reporter Cell and anti-human 4-1BB/PD-L1 BsAb, the anti-human 4-1BB/PD-L1 BsAb can be crosslinked, thereby strengthening 4-1BB pathway-activated luminescence.

• Application

- Useful for cell-based PD-L1 binding assay
- Useful for PD-L1-mediated crosslinking in reporter gene assay



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• Cell Line Profile of Human 4-1BB (Luc) HEK293 Reporter Cell

Cell line	Human 4-1BB (Luc) HEK293 Reporter Cell
Host Cell	HEK293
Property	Adherent
Complete Growth Medium	DMEM + 10% FBS
Selection Marker	Puromycin (2 µg/mL) + Hygromycin (20 µg/mL)
Incubation	37°C with 5% CO ₂
Doubling Time	22-24 hours
Transduction Technique	Lentivirus

• Cell Line Profile of CHO/Human PD-L1 Stable Cell Line (Medium Expression)

Cell line	CHO/Human PD-L1 Stable Cell Line (Medium Expression)
Host Cell	CHO
Property	Adherent
Complete Growth Medium	F-12K + 10% FBS
Selection Marker	Hygromycin (20 µg/mL)
Incubation	37°C with 5% CO ₂
Doubling Time	22-24 hours
Transduction Technique	Lentivirus

• Cell Culture of Human 4-1BB (Luc) HEK293 Reporter Cell

Materials Required

- DMEM medium (Gibco, Cat.No.11965-092)
- Fetal bovine serum (CellMax, Cat.No.SA211.02)
- Puromycin (InvivoGen, Cat.No.ant-pr-5b)
- Hygromycin B (Invitrogen, Cat.No.10687010)
- Complete Growth Medium: DMEM + 10% FBS
- Culture Medium: DMEM + 10% FBS, Hygromycin (20 µg/mL), Puromycin (2 µg/mL)
- Freeze Medium: 90% FBS, 10% (V/V) DMSO
- T-75 Culture flask (Corning, 430641)
- Cryogenic storage vials (SARSTEDT, 72.379.007)
- Thermostat water bath
- Centrifuge
- Luna cell counter (Logos Biosystems, LUNA- II)
- CO₂ Incubator (Thermo, 3111)
- Biological Safety Cabinet (Thermo, 1389)

Recovery

1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by spraying with 70% ethanol. All the operations from this point on should be carried out under strict aseptic conditions.
3. Transfer the vial contents to a centrifuge tube containing 4.0 mL complete growth medium and spin at approximately 1000 rpm for 5 minutes.
4. Resuspend cell pellet with 5 mL complete growth medium and transfer the cell suspension into T-75 flask containing 10-15 mL of pre-warmed complete growth medium.
5. Incubate at 37°C with 5% CO₂ incubator until the cells are ready to be split.

Subculture

1. Remove and discard culture medium.
2. Wash the cells once with sterile PBS.
3. Add 3 mL of 0.25% trypsin to cell culture flask. Place the flask at 37°C for 5-7 minutes, until 90% of the cells have detached.
4. Add 6.0 to 8.0 mL of culture medium and aspirate cells by gently pipetting.
5. Add appropriate aliquots of the cell suspension to new culture vessel.
6. Incubate at 37°C with 5% CO₂ incubator.

Subcultivation Ratio: A subcultivation ratio of 1:6 to 1:10 is recommended.

Medium Renewal: Every 2 to 3 days.

Cryopreservation

1. Remove and discard spent medium.
2. Detach cells from the cell culture flasks with 0.25% trypsin.
3. Centrifuge at 1000 rpm for 5 min at RT to pellet cells.
4. Resuspend the cell pellets with culture medium and count viable cells.
5. Centrifuge at 1000 rpm for 5 min at RT and resuspend cells in freezing medium to a concentration of 5×10^6 to 1×10^7 cells/mL.
6. Aliquot into cryogenic storage vials. Place vials in a programmable cooler or an insulated box placed in a -80°C freezer overnight, then transferring to liquid nitrogen storage.

Storage

- **Product format:** Frozen
- **Storage conditions:** Liquid nitrogen immediately upon receipt

• ***Cell Culture of CHO/Human PD-L1 Stable Cell Line (Medium Expression)***

Materials Required

- F-12K Nutrient Mixture (Gibco, Cat.No.21127-022)
- Fetal bovine serum (CellMax, Cat.No.SA211.02)
- Hygromycin B (Invitrogen, Cat.No.10687010)
- Complete Growth Medium: F-12K + 10% FBS
- Culture Medium: F-12K + 10% FBS, Hygromycin (20 µg/mL)
- Freeze Medium: 90% FBS, 10% (V/V) DMSO
- T-75 Culture flask (Corning, 430641)
- Cryogenic storage vials (SARSTEDT, 72.379.007)
- Thermostat water bath
- Centrifuge
- Luna cell counter (Logos Biosystems, LUNA- II)
- CO₂ Incubator (Thermo, 3111)
- Biological Safety Cabinet (Thermo, 1389)

Recovery

1. Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by spraying with 70% ethanol. All the operations from this point on should be carried out under strict aseptic conditions.
3. Transfer the vial contents to a centrifuge tube containing 4.0 mL complete growth medium and spin at approximately 1000 rpm for 5 minutes.
4. Resuspend cell pellet with 5 mL complete growth medium and transfer the cell suspension into T-75 flask containing 10-15 mL of pre-warmed complete growth medium.
5. Incubate at 37°C with 5% CO₂ incubator until the cells are ready to be split.

Subculture

1. Remove and discard culture medium.
2. Wash the cells once with sterile PBS.
3. Add 3 mL of 0.25% trypsin to cell culture flask. Place the flask at 37°C for 5-7 minutes, until 90% of the cells have detached.
4. Add 6.0 to 8.0 mL of culture medium and aspirate cells by gently pipetting.
5. Add appropriate aliquots of the cell suspension to new culture vessel.
6. Incubate at 37°C with 5% CO₂ incubator.

Subcultivation Ratio: A subcultivation ratio of 1:6 to 1:10 is recommended.

Medium Renewal: Every 2 to 3 days.

Cryopreservation

1. Remove and discard spent medium.
2. Detach cells from the cell culture flasks with 0.25% trypsin.
3. Centrifuge at 1000 rpm for 5 min at RT to pellet cells.
4. Resuspend the cell pellets with culture medium and count viable cells.
5. Centrifuge at 1000 rpm for 5 min at RT and resuspend cells in freezing medium to a concentration of 5×10^6 to 1×10^7 cells/mL.
6. Aliquot into cryogenic storage vials. Place vials in a programmable cooler or an insulated box placed in a -80°C freezer overnight, then transferring to liquid nitrogen storage.

Storage

- **Product format:** Frozen
- **Storage conditions:** Liquid nitrogen immediately upon receipt

• *Receptor Assay*

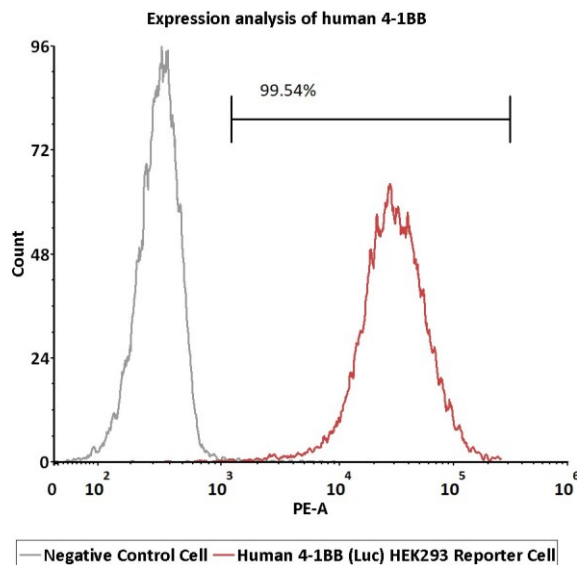
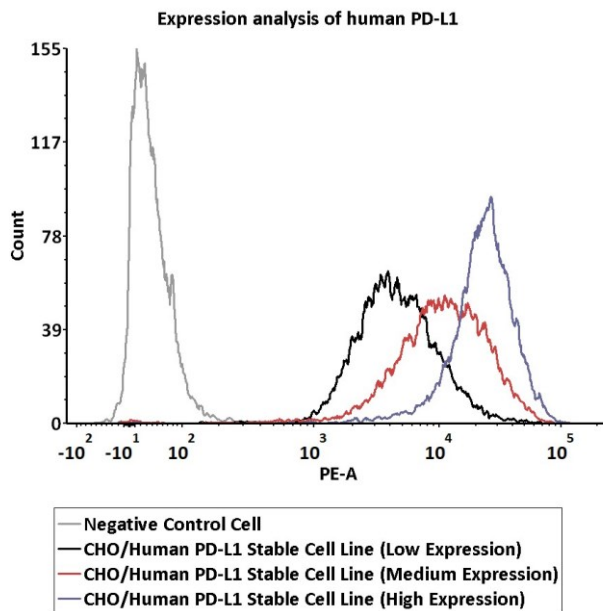


Fig1. Expression analysis of human 4-1BB on Human 4-1BB (Luc) HEK293 Reporter Cell by FACS. Cell surface staining was performed on Human 4-1BB (Luc) HEK293 Reporter Cell or negative control cell using PE-labeled anti-human 4-1BB antibody.



Catalog No.	Stable Cell Line	MFI for PD-L1 (PE)
SCCHO-ATP077L	CHO/Human PD-L1 Stable Cell Line (Low Expression)	4193.33
SCCHO-ATP077M	CHO/Human PD-L1 Stable Cell Line (Medium Expression)	10543.80
SCCHO-ATP077H	CHO/Human PD-L1 Stable Cell Line (High Expression)	22783.64

Fig2. Expression analysis of human PD-L1 on CHO/ Human PD-L1 Stable Cell Line by FACS. Cell surface staining using PE-labeled anti-human PD-L1 antibody was performed on CHO/Human PD-L1 Stable Cell Line with different expression levels: CHO/Human PD-L1 Stable Cell Line (Low Expression); CHO/Human PD-L1 Stable Cell Line (Medium Expression); CHO/Human PD-L1 Stable Cell Line (High Expression).

• *Application*

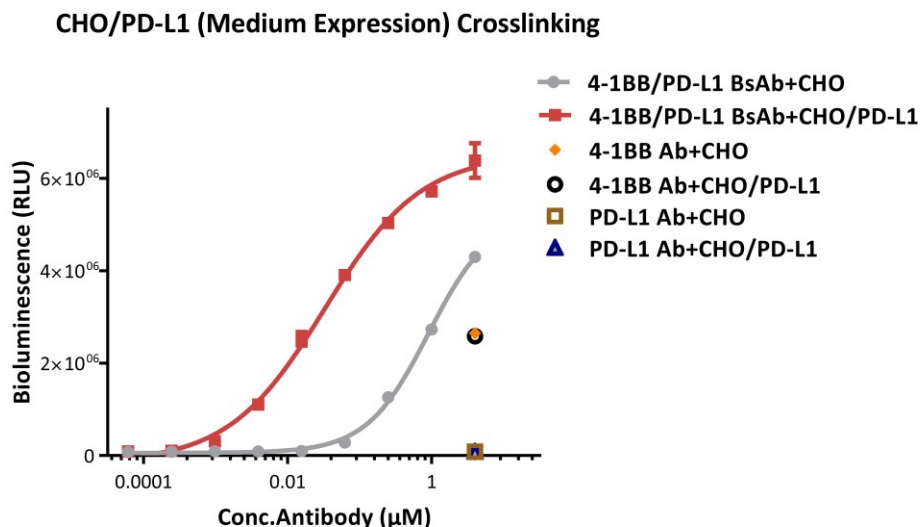


Fig3. Bioactivity analysis of anti-human 4-1BB/PD-L1 BsAb through CHO/Human PD-L1 Stable Cell Line (Medium Expression) crosslinking to test whether in a PD-L1-dependent manner to strengthen the agonistic activity. The EC50 of anti-human 4-1BB/PD-L1 BsAb antibody is approximately 0.033 µM through CHO/Human PD-L1 Stable Cell Line (Medium Expression) crosslinking.

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• *License Disclosure*

This reporter cell is provided for research use only. This license does not permit you to share, distribute, sell, sublicense, or otherwise make this reporter cell available for use to other laboratories, departments, research institutions, hospitals, universities, or biotech companies. The license does not permit modification of this reporter cell in any way. Inappropriate use or distribution of this reporter cell will result in revocation of the license. Modifications of this cell line, transfer to another facility, or commercial use of the cells may require a separate license and additional fees. AcroBiosystems does not warrant the suitability of this reporter cell for any particular use, and does not accept any liability in connection with the handling or use of this reporter cell.

• *Related Products*

<u>Products</u>	<u>Cat.No.</u>
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32a-Low Expression)	CK-001
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32a-Medium Expression)	CK-002
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32a-High Expression)	CK-003
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD16a (158V)-Low Expression)	CK-004
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD16a (158V)-Medium Expression)	CK-005
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD16a (158V)-High Expression)	CK-006
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32b-Low Expression)	CK-007
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32b-Medium Expression)	CK-008
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD32b-High Expression)	CK-009
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD64-Low Expression)	CK-010
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD64-Medium Expression)	CK-011
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human CD64-High Expression)	CK-012
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human PD-L1-Low Expression)	CK-013
Cell-based Screening Kit for Anti-human 4-1BB Antibody (Human PD-L1-High Expression)	CK-015