

## Anti-Human CD137 mAb

Size / Cat.No.: 100µg / GMP-TL778-0100

### Product Name

Generic Name Anti-Human CD137 mAb

### Product Information

Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE.
Purification	Protein A purified from cell culture supernatant.
Endotoxin	< 0.1EU per µg of the protein as determined by the LAL method.
Biological activity	The binding rate with PBMCs.
Formulation	Supplied as a 0.22µm filtered solution in PBS, PH 7.4.
Stability & Storage	24 months at 2°C to 8°C. Avoid repeated freeze-thaw cycles.

### Background

4-1BB, also known as CD137, is an inducible cell surface receptor and one member of tumor necrosis factor receptor (tumor necrosis factor receptor, TNFR) superfamily. CD137 is encoded by the tumor necrosis factor receptor superfamily member 9 (TNFRSF9) gene and widely expressed on the surface of activated T cells and NK cells. Its ligand, CD137L, also a TNFSF member, is an inducible costimulatory receptor expressed by activated CD4<sup>+</sup> and CD8<sup>+</sup> T cells, NKT, NK cells, DC, macrophages, eosinophils, neutrophils and mast cells, especially on CD8<sup>+</sup> T cells. CD137 / CD137L mediate immune responses by transmitting activation, proliferation, or apoptotic signals between immune cells. The activation of CD137 can stimulate NK cell and T cell proliferation and generate anti-tumor activity, which produce durable memory responses. 4-1BB mAb can activate 4-1BB to recruit TNFR related factors TRAF1 and TRAF2. Then, TRAF1 and TRAF2 form a heterotrimer, which strengthen signal transduction through c-Jun N terminal kinase (JNK) or extracellular signal-regulated kinase (ERK) pathway. This heterotrimer can stimulate the proliferation of T cells and antigen-presenting cells, improve anti-tumor immune response of the body and secrete cytokines through the transcription of NF-κB.

## References

1. Langstein J, Schwarz H. Identification of CD137 as a potent monocyte survival factor. *Journal of leukocyte biology*, 1999, 65(6):829-833.
2. Kim, Hongheea, wack K, yubum K, Beomb, Lee, Zang heea. Activation of c-Jun N-terminal Kinase by 4-1BB (CD137), a T Cell Co-stimulatory Molecule. *Molecules and cells*, 2000, 10(3): 247-252.
3. Kienzle G, von Kempis J. CD137 (ILA/4-1BB), expressed by primary human monocytes, induces monocyte activation and apoptosis of B lymphocytes. *International immunology*. 2000, 12(1): 73-82.