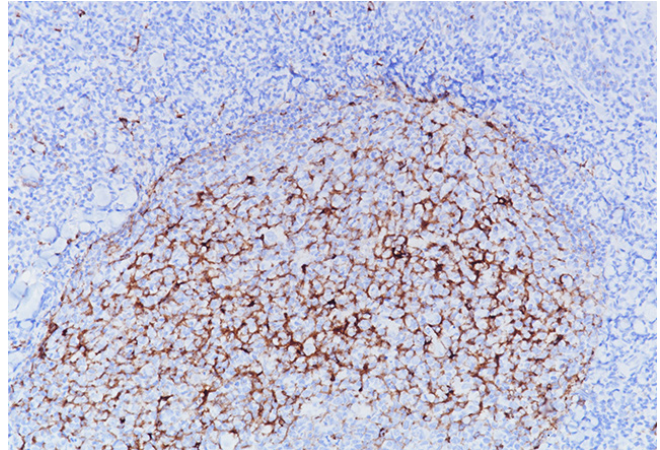


Meet the Marker: CD137

Meet the Marker: CD137

Evasion of the immune system is a key feature of cancerous growths. This may be done by manipulating the expression of certain molecules that affect the way the immune system functions, known as immune checkpoints.^{2,3} This activity has been observed in familiar molecules such as PD-L1 (programmed death-ligand 1) and CTLA-4 (cytotoxic T-lymphocyte associated protein 4).³ Tumor necrosis factor receptor superfamily member 9 (TNFRSF9), also known as 4-1BB or CD137, has been found to be another important immune-modulating molecule.²

CD137 has been discovered to be an activation marker of T cells, and its expression has been found on other immune cells such as natural killer cells, B cells, and myeloid cells.^{1,5} CD137 expression has also been found in both solid tumors, such as lung cancers, and liquid tumors, such as leukemia.⁷ It has a wide distribution in the human body as well, with CD137 ligand (CD137L) being found on all types of antigen-presenting cells.^{3,7}

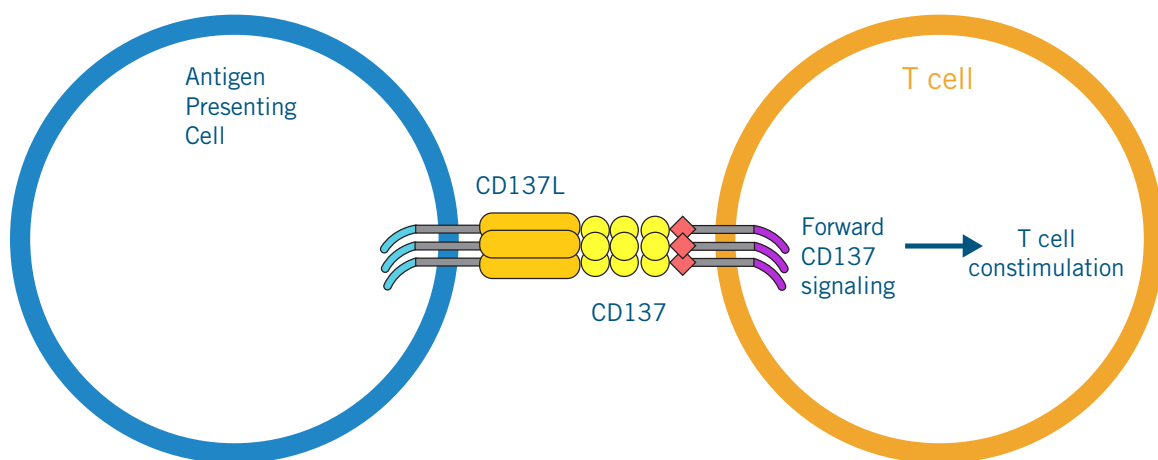


Tonsil stained with CD137 [BLR051F] antibody

CD137 signaling is induced by the CD137L.⁷ Activated T cells appear to gain co-stimulatory and anti-apoptotic signals after binding the CD137L, which would promote immune system activity against tumors.⁶ Additionally, the CD137 activation pathway stimulates inflammation which is detrimental to tumor growth.⁷

These properties have made CD137 a target of interest for antibody immunotherapy.¹ Immunotherapy is a cancer treatment method that works by boosting the body's natural immune defense system to detect and attack tumor cells, and so CD137's ability to activate cytotoxic T cells and increase the production of interferon gamma (IFN- γ) would hypothetically be an advantage in this method of cancer treatment.² Anti-CD137 monoclonal antibody therapy has entered clinical trials for solid tumors, such as renal cell carcinoma, lung cancer, melanoma, or ovarian cancer.³

CD137 Illustration



Biocare offers CD137 [BLR051F] in both concentrated and ready-to-use formats.

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