



## Synthetic IL6-IL1 $\beta$ Fusion Cytokine For Promoting T Cell Cytotoxic Function, T Cell Proliferation, and Anti-Tumoricidal Activity

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### The Invention

UW researchers have created a biological therapeutic that stimulates the immune system to fight solid tumors. The researchers fused the cytokines IL-6 and IL-1 $\beta$  together to form a bifunctional biomolecule they call IL-61. Separately, IL-6 and IL-1 $\beta$  support activation and survival of T cells. Fused together, the researchers observed IL-61 display novel T cell proliferation and tumoricidal effects in vitro and in vivo. IL-61 transduced into tumor infiltrating lymphocytes isolated from an ovarian cancer mouse model produced immune cells capable of killing tumor cell when the transduced leukocytes were injected back into the mice. The researchers noted that the fusion protein appears to both inhibit apoptosis of T cells and promote proliferation. This molecule acts as a stimulating factor for increasing the number of T cells both in vitro and in vivo and acts as an anti-apoptosis agent preventing T cell death.

#### Tech Fields

- [Therapeutics & Vaccines : Oncology](#).

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