

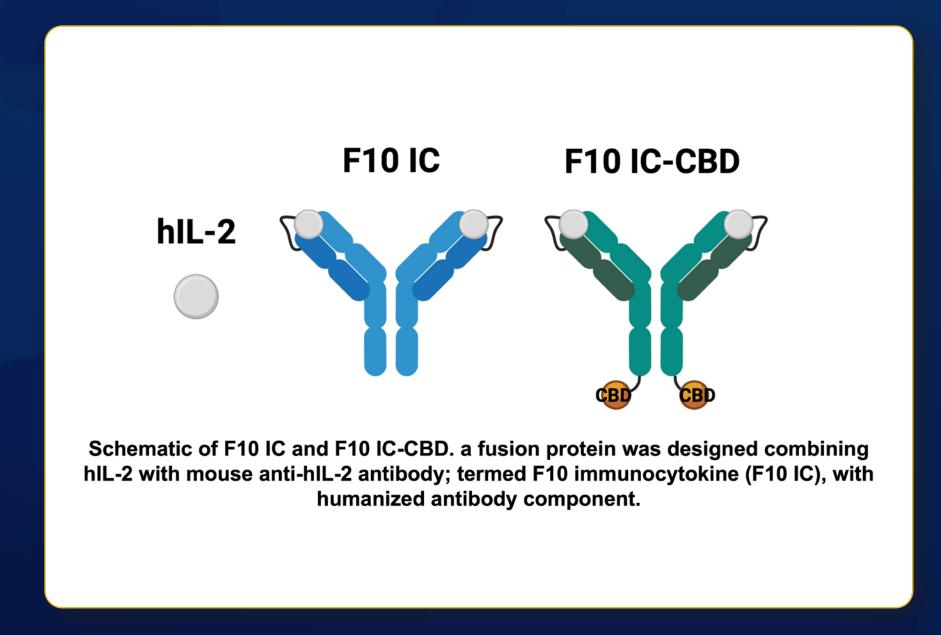
Paschal Uchehara

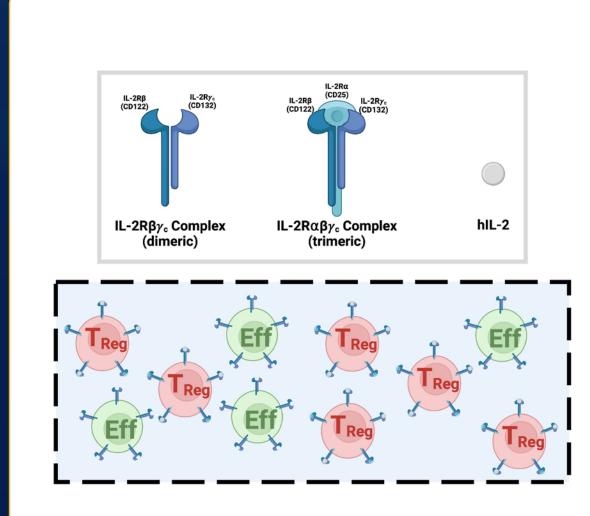
Taylor Award *Chemistry Major First Year ARCS Scholar*



Selective Biological Activity of IL-2 Immunocytokines: A Focus on Effector Immune Cell Populations and Cancer Treatment

Human interleukin-2 (hIL-2) has limited clinical applications due to its short in vivo half-life and preferential activation of regulatory T (Treg) cells over immune effector cells (Effs). The F10 immunocytokine (IC) collagen binding domain (CBD), a fusion protein of hIL-2 and mouse antibody, extends hIL-2's half-life, reducing Treg activation, and enhances effector cell stimulation, showing promise for improved anti-tumor efficiency in caner immunotherapy.





IL-2 interacts with IL-2 receptor (IL-2R) subunits: IL-2R α (CD25), IL-2 β (CD122), and common γ (γ_c or CD132). IL- $2R\beta\gamma_c$ complex is mainly expressed on Eff cells: natural killer (NK) and CD4+ and CD8+ T cells. IL- $2\alpha\beta\gamma_c$ complex, is mainly expressed on T_{Reg} cells.

