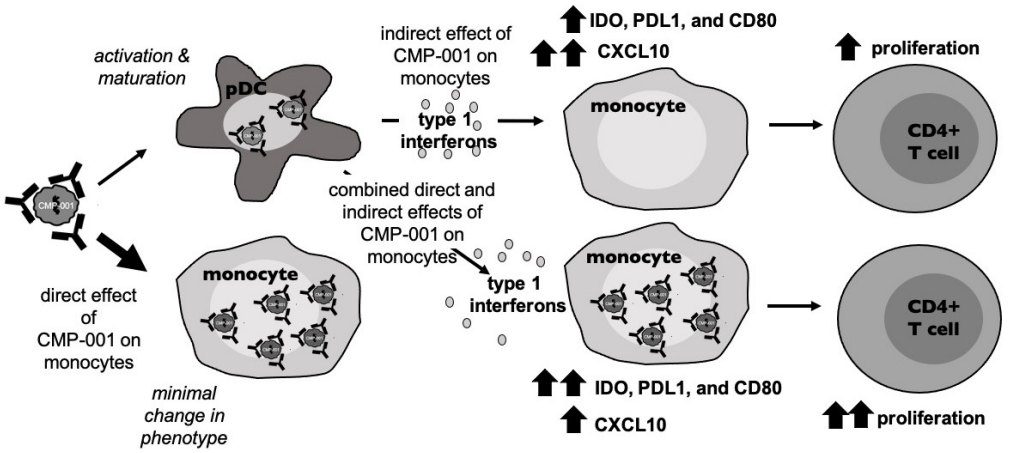
Direct and Indirect Immune Effects of CMP-001, a Virus Like Particle Containing a TLR9 Agonist



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In Brief
CMP-001, a virus-like particle (VLP) containing a TLR9 agonist encapsulated by the Qβ capsid, is showing promise in early clinical trials when administered intratumorally. CMP-001 coated by anti-Qβ antibody induces production of Type 1 interferon by plasmacytoid DCs. This interferon then induces changes in multiple cell types including production of CXCL10 and expression of IDO, PDL1, and CD80 by monocytes. Phagocytosis of anti-Qβ-coated CMP-001 by monocytes has little direct effect on monocytes expression of these proteins but alters their response to Type 1 interferon including enhancing expression of IDO, PDL1, and CD80 and suppressing expression of CXCL10. These cells had an enhanced ability to induce autologous CD4 T cell proliferation.