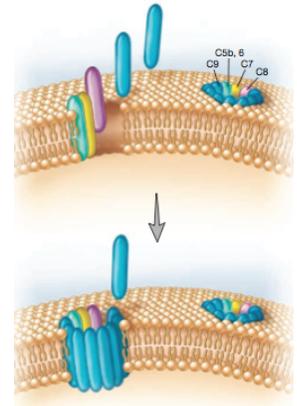


VISTA Mediated Cascade Attacks against Gram Negative Bacteria and Cancer

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Changsha, Hunan, China - One of the many weapons the immune system has against potentially threatening cells is activated through a cascade of reactions where ultimately holes are “punched” through the target cell’s membrane, allowing water and oil to enter, resulting in cell death. This immune response is typically referred to as the membrane attack complex (MAC). The first stage of MAC employs proteins C5, C6, and C7. Through cleaving and binding of these proteins, C7 is able to penetrate the target cell’s membrane. This gives way to the second stage of MAC, polymerization. Polymerization counts on proteins C8 and C9. C8 inserts itself into the target cell’s membrane where it calls upon many C9 proteins to form a porous structure that further penetrates the target cell’s membrane.



Veraptus Immune System Triggering Aptamers (“VISTA”) are able to initiate the MAC by linking a signaling protein to the aptamer’s targeted cell. The aptamer’s ability to bind to specific cell membranes allows for it to “tag” pathogenic cells for the immune system that would otherwise go unchecked. The MAC is initiated upon the aptamer binding to the targeted cell membrane.

VISTA mediated cascade attacks are specifically engineered to target thin-walled gram negative drug resistant bacteria and cancer cells. Gram negative drug resistant bacteria are a major cause of sepsis and serious complications for patients. Preclinical results show promising targeted cell death. This moiety may be able to serve as a standalone therapy or serve as adjunctive therapy with currently approved drugs, increasing their efficacy in difficult to treat circumstances. However, due to the limited penetrating depth for MAC (~15 nm), this mode of attack may have limited efficacy as a single drug therapy against target cells with thicker cell membranes (i.e., Gram positive bacteria).