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**CPI-006 ACTIVATES B CELLS & INDUCES DIFFERENTIATION**

CPI-006 may increase anti-SARS-CoV-2 antibody responses to accelerate virus clearance, improve clinical outcomes, and impart long term immunity and protection from re-infection.

**IMMUNOTHERAPY OF COVID-19 WITH CPI-006**

CPI-006 may be a functional therapy for treatment or prevention of other infectious diseases or as an adjuvant to enhance the efficacy of vaccines.

**VACCINATION OF HUMANIZED MICE WITH CPI-006 AND SPIKE PROTEIN ELICITS ANTIGEN SPECIFIC IMMUNITY**

NSS-NSG mice vaccinated with spike + CPI-006 make antigen specific human anti-spike antibodies. Mice receiving spike + isotype do not mount a response.

**DOSE-DEPENDENT BOOSTING OF HUMERAL IMMUNITY**

IgG to SARS-CoV-2 Trimeric Spike

**CAPSULE SUMMARY**

CPI-006 activates B cells, leading to lymphocyte trafficking, plasmablast differentiation, and antigen specific antibody secretion.

In control experiments using humanized NSS-NSG mice, vaccination with CPI-006 and SARS-CoV-2 spike protein leads to an antigen specific humoral immune response. Mice injected with spike protein alone do not mount a response.

Single doses of 0.3 mg/kg - 5 mg/kg CPI-006 are well tolerated in hospitalized COVID-19 patients with no drug related adverse events.

Dose dependent increases in the titers of IgG and IgM to SARS-CoV-2 spike and RBD were significantly above convalescent controls.

IgG and IgM titers to SARS-CoV-2 are sustained over 84+ days beyond presentation of symptoms.

Mapping studies show polyclonal anti-viral responses targeting multiple epitopes within the N terminus, RBD, 1, 12 of SARS-CoV-2.

Increased frequencies of peripheral memory B cell and memory effector T cell populations were observed following CPI-006 treatment.

T cells release IFNγ and IL-2 consistent with antigen specific Th1 response

B cell activation with CPI-006 may represent a novel immunotherapy for infectious diseases. A phase 3 randomized control trial in COVID-19 patients is planned.

Scan code for copy of medRxiv paper describing preclinical, translational, and clinical results in more detail.