"NOVEL HUMAN CYTOMEGALOVIRUS VACCINE AND DIAGNOSTIC ASSAY"

VCU #13-030

Applications

- Human cytomegalovirus vaccine
- Diagnostic assay
- Therapeutic antibodies

Advantages

- Production of soluble protein in high quantities
- Diagnostic and therapeutic potential
- Low cost of production

Inventors

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Market Need

Human cytomegalovirus (HCMV) causes considerable disease burden among immunocompromised subjects, including AIDS patients, transplant patients, and developing fetuses in utero. HCMV hyperimmune globulin (human IgG, purified from human blood donors that have naturally acquired an HCMV infection) has been shown to have some efficacy in treating HCMV-associated diseases, but it is costly to manufacture and, as it is derived from human blood, subject both to product variability and safety concerns. Currently there is no available vaccine against HCMV.

Technology Summary

Dr. McVoy and colleagues have identified a human cytomegalovirus protein, which is able to induce HCMV neutralizing antibodies in mice and rabbits indicating potential use as a vaccine immunogen or for development of diagnostic assay based on detection of the antibodies to HCMV in human clinical samples. Improved expression and purification methods result in a low cost production of high quantities of mostly soluble protein, which is a great advantage over previous methods that fail to produce soluble product. *In vivo* studies using rabbits immunized with this protein have shown that it could be potentially used as a universal HCMV vaccine immunogen.

Technology Status

In vivo and *in vitro* data available.

Patent pending: U.S. and foreign rights available

This technology is available for licensing to industry for further development and commercialization.