Hybridoma Producing Antibodies To C1qRp

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BRIEF DESCRIPTION

Individuals with genetic immunodeficiency, as well as patients with HIV, cancer, and those undergoing chemotherapy or high risk surgery, are at increased risk for infection. C1q, an important component of the immune system, is known to enhance phagocytosis (cell ingestion of harmful bacteria or other materials). Scientists at UCI have developed antibodies to the receptor for C1q, C1qRp, to be used as a target for prophylactic treatments in populations at high risk of infection.

FULL DESCRIPTION

The classical complement pathway is generally seen as a crucial contributor to the immune system. The first component of this pathway, C1q, is responsible for enhancing the ability for cells to clear pathogens from an organism. In particular, C1q has been known to mediate enhancement of phagocytosis. In order to target this system, the method by which C1q enhances phagocytosis should be investigated.

Researchers at UCI have developed antibodies that target C1qRp, the receptor for C1q. These antibodies have been shown to inhibit C1q-mediated enhancement of phagocytosis, which provides strong evidence that C1qRp is heavily involved in this process. Utilization of these antibodies will allow further isolation and characterization of C1qRp, which could present the ability to regulate the phagocytic capacity of cells. Thus, C1qRp is a viable target for prophylactic treatments in populations at high risk of infection, including individuals with genetic immunodeficiency, patients with HIV or cancer, or patients undergoing chemotherapy or high risk surgeries.

ADVANTAGES

Allows the ability to enhance a naturally occurring feature of the immune system; may have few side effects or introduce fewer foreign substances to the body than other preventative treatments

STATE OF DEVELOPMENT

Antibodies (R139, R3, U40.3) have been developed and shown in vitro to allow the isolation and characterization of C1qRp

RELATED MATERIALS

» Tenner AJ. Complement in Alzheimer's disease: opportunities for modulating protective and pathogenic events. Neurobiol Aging. 2001 Nov-Dec;22(6):849-61. Review. - 11/01/2001

» Guan EN, Burgess WH, Robinson SL, Goodman EB, McTigue KJ, Tenner AJ. Phagocytic cell molecules that bind the collagen-like region of C1q. Involvement in the C1q-mediated enhancement of phagocytosis. J Biol Chem. 1991 Oct 25;266(30):20345-55. PubMed PMID: 1939090. - 10/25/1991

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OTHER INFORMATION

CATEGORIZED AS

» **Medical**

» Disease: Autoimmune and Inflammation

» Disease: Blood and Lymphatic System

» Disease: Cancer

» Disease: Cardiovascular and Circulatory System

» Disease: Central Nervous System

» Disease: Infectious Diseases

» Disease: Kidneys and Genito-Urinary System

» Disease: Metabolic/Endocrinology

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