New proprietary peptides and antibodies are being used to block the rapid accumulation of tissue fluid and subsequent dangerous swelling those patients with angioedema (AE) experience when exposed to numerous different stimuli. Specifically, a novel mechanism of action blocks the vascular permeability that is induced by the attack phase plasma in C1 inhibitor (C1-INH) deficient patients.

**Background:**
Angioedema associated with C1-INH deficiency is an inherited or acquired condition that affects 20 percent of the population. The condition can be disfiguring, painful and sometimes fatal. Existing treatments primarily replace or enhance the production of C1-INH, but these options are limited to availability, price, side effects and long-term risks. New therapeutic modalities that address these issues are sorely needed.

**Technology Description:**
Dr. Berhane Ghebrehiwet, D.V.M., D.Sc., professor of Medicine and Pathology at Stony Brook University, has identified proprietary peptides and antibodies that are being used in a novel mechanism of action to block the vascular permeability that is induced by the attack phase plasma in C1-INH deficient AE patients. This mechanism of action relates to blocking bradykinin (BK) production and the complement activation, key mediators of episodic AE.

Inhibition of vascular leakage by monoclonal antibodies recognizing gC1q1-R
Permeability of ADMECs incubated with mAb 60.11 or 74.5.2 anti-gC1qR before addition of attack phase plasma from 3 patients

**Patents / Publications:**
- Patent Pending

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**Advantages**
- New target and compositions for the treatment of AE.
- Novel mechanism of action for blocking the production of BK and the complement activation.

**Applications**
- Diagnostic and therapeutic applications for hereditary and drug induced AE
- Drug discovery

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