

ABSTRACT

THESIS: COMPARISON OF THE ANTI-BASAL GANGLIA AND ANTI-PHOSPHOLIPID PROPERTIES OF mAb10F5 AND IgG2 SUBTYPE CONTROLS

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Group A streptococcal disorders can result from autoantibodies generated against M proteins. These autoantibodies cross react with the basal ganglia resulting in movement disorders. Previously, we demonstrated binding of streptococcal mAb10F5, with CPu and phospholipids. To determine if mAb10F5 binding to basal ganglia and phospholipids is due to virulence of the antibody or antibody subtype, rats were injected with control IgG2 antibodies and euthanized after 24, 48, or 72 hours. Brains were harvested and immunofluorescence was used to analyze brain slices. Control IgG2 rats showed significantly less fluorescence in the CPu than mAb10F5 injected rats at every time point. These findings reaffirm 10F5 is an anti-basal ganglia antibody. To evaluate mechanism of antibody entry, mAb10F5 was examined for anti-phospholipid activity. MAb10F5 displayed greater affinity to phospholipids when compared to

IgG2 controls. Our findings support mAb10F5 is an anti-basal ganglia and anti-phospholipid antibody due to its own virulence.