

Glycan derivatization with the Anti-Amyloid- β Monoclonal Antibody 4G8 treatment

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The cause of Alzheimer's disease seems to be deficiently understood. There are many genetic and environmental factors that play a huge part in how this disease progresses. Affected people will rely heavily on their caregivers. With this, it is placing a huge burden and pressure on both people. The antibody drugs may be able to impact Alzheimer's symptoms but cannot be fully actualized due to their inability to be delivered to the brain. This study investigated the glycan modification that could alter IgG BBB permeability to be able to get a better drug retention in the brain for Alzheimer's patient. If the sialylated Fab glycans are created, there will be a lot of improvement when it comes to the antibody drug delivery to the brain. Using 4G8, a pure sialylated Fab glycan on antibody 4G8 (G2FS2) was produced. With that, Neuraminidase (also called AlphaGal), 26ST added and ECL column to purify. This analysis showed no functional results have been achieved due to a couple of underlying errors which PNGase must have been expired or had a lesser effect. These results would need further research and modifying some steps where it is suspected that could have affected the outcome to be able to investigate how glycans can be shown in HPLC.