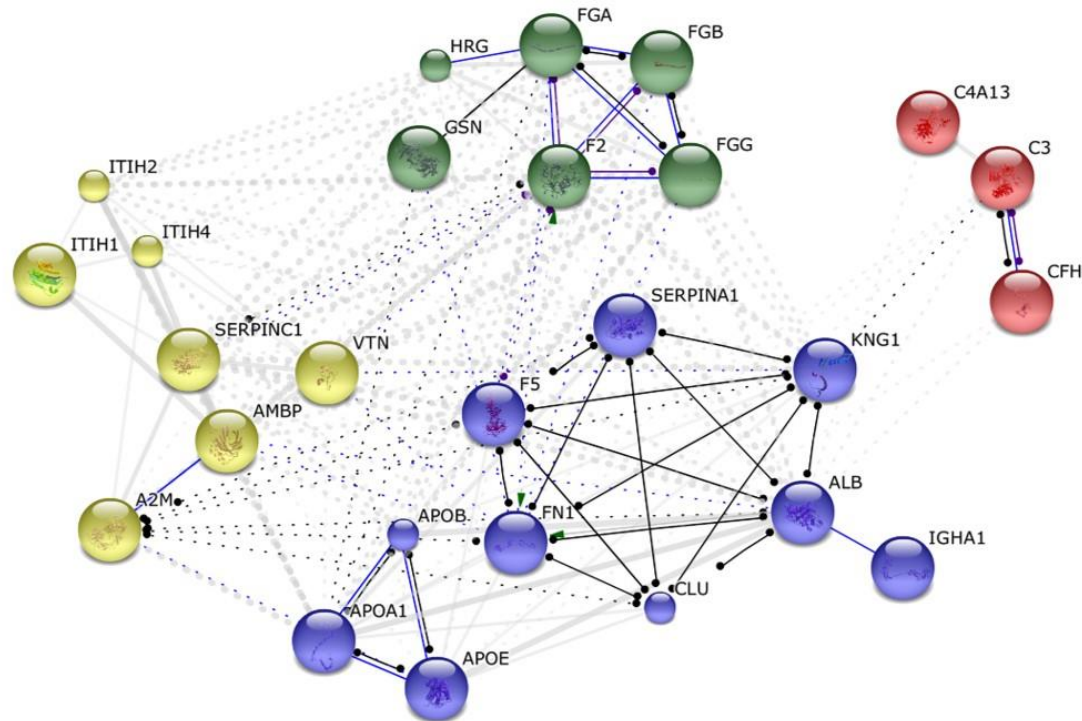
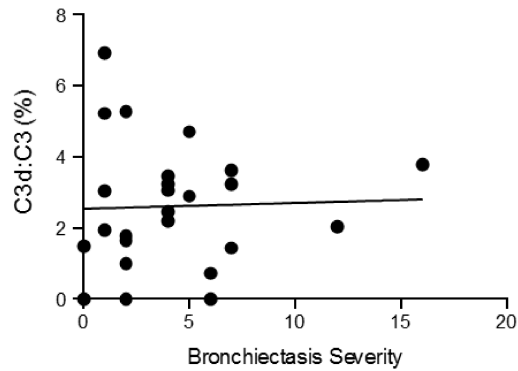


Supplementary data- O'Brien

**Supplementary Figure 1: Visualization of the network of AAT complexed binding partners.**

Proteins were analysed using String v9.0 to depict any known interactions. Stage 4 cluster analysis was performed to organise proteins according to function to assist with the interpretation of Table 2. Significant interactions between the analysed proteins are depicted here; known binding interactions are depicted with a blue line; catalytic reactions are shown with a purple line; and known reactions are shown with a black line. Interactions that are not relevant in humans or do not relate to binding have been faded out. Based on this analysis, different protein clusters become apparent: Coagulation in green, complement in red, protease inhibition (including SERPINA1) and lipid transport in blue, and immunoglobulin function and protease inhibition in yellow. Notably a direct link between C3 and AAT (SERPINA1) is not demonstrated. SERPINA1 = Alpha-1 antitrypsin



Supplementary Figure 2: No correlation between C3 activation product C3d and clinical bronchiectasis in ZZ-AAT.

Individuals with ZZ-AATD and airflow obstruction had a higher molar ratio of complement activation (C3d:C3%) but no relationship was detected between C3d:C3% and CT determined bronchiectasis. There was no correlation with the degree of CT determined bronchiectasis and complement activation ($r=0.12$, $r^2=0.014$, $p=0.43$).