Table S5: List of identified proteins in MADvC and their role and functions related to AD.

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| Protein | Role and functions related to AD |
| Apolipoprotein A-IV (*APOA4*) | * Plays a crucial role in brain metabolism. * Functions as an anti-inflammatory agent (Cui et al. 2011; Vowinkel et al. 2004). * The decrement in the level of *APOA4* was observed with the increment of Aβ deposition level in the brain, resulting in cognitive damage (Cui et al. 2011; Lin et al. 2015). |
| Fibrinogen alpha chain (*FGA*) | * The accumulation of the *FGA* was detected in the AD brain in the study (Bian et al. 2021). * Triggers abnormal coagulation and fibrinolysis in the vascular unit in the brain, causing neurovascular inflammation and dysfunction (Shi et al. 2019a; Shi et al. 2019b). * Protein *FGA* was found inversely correlated with cognitive dysfunction in the Malaysian population (Rehiman et al. 2020). |
| Complement C2 (*C2*) | * *C2* is activated by Aβ and p-tau which take part in the cascade process of inducing inflammation (Shah et al. 2021; Tenner 2020). |
| Complement C4-A (*C4A*) | * Plasma level of *C4A* was observed to increase in AD (Bennett et al. 2012). |
| Inter-alpha-trypsin inhibitor heavy chain H4(*ITIH4*) | * Responds to the acute-inflammatory phase of several pathology progress of several diseases including AD (Yang et al. 2012). * Higher expression of *ITIH4* in the AD mice model compared to the control, suggesting the potential of *ITIH4* as a marker for AD (Shi et al. 2019a; Shi et al. 2019b) . |