



**Figure S1.** Study design. (a) MSCs drawn from bone marrow were grown in artificial CSF (aCSF) and the supernatants collected (and frozen), and further used as "MSC secretions-enriched-aCSF" ("enriched-aCSF") for testing their effect on the viability of neuronal cell lines and proliferation of splenocytes. (b) The enriched-aCSF was then used for the CSF exchange therapy in EAE-mice: infusion of the enriched-aCSF into one ventricle ("in"), and withdrawal of endogenous CSF from the other ventricle ("out"), while freely moving in the cage (Explained in the Materials and Methods).