

Supplementary Table 1. Diet composition of different treatment groups.

Ingredients (g/kg)	AIN76	EPA-rich diet	DHA-rich diet
	Con, CSD	EPA	DHA
Corn starch	399.5	399.5	399.5
Sucrose	100	100	100
Casein	200	200	200
Maize oil	50	46.4	46.4
Lard	150	139	139
DHA-EE	-	-	14.6
EPA-EE	-	14.6	-
Microcrystalline cellulose	50	50	50
Minerals	35	35	35
Vitamins	10	10	10
L-cysteine	2.5	2.5	2.5
Choline tartrate	3	3	3
Fatty acids composition (%)			
C16:0	25.9	23.60	23.53
C18:0	3.8	3.40	3.41
C18:1	46.3	42.83	42.87
C18:2	22.8	20.62	20.64
C18:3	1.0	0.93	0.93
C20:4 n-6	0.3	0.23	0.23
C20:5 n-3	-	0.85	7.53
C22:6 n-3	-	7.53	0.85

Note: “-”, none detected.

Con, control; CSD, chronic sleep deprivation; EPA, sleep deprivation treated with EPA; DHA, sleep deprivation treated with DHA; EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid; AIN, American Institute of Nutrition.

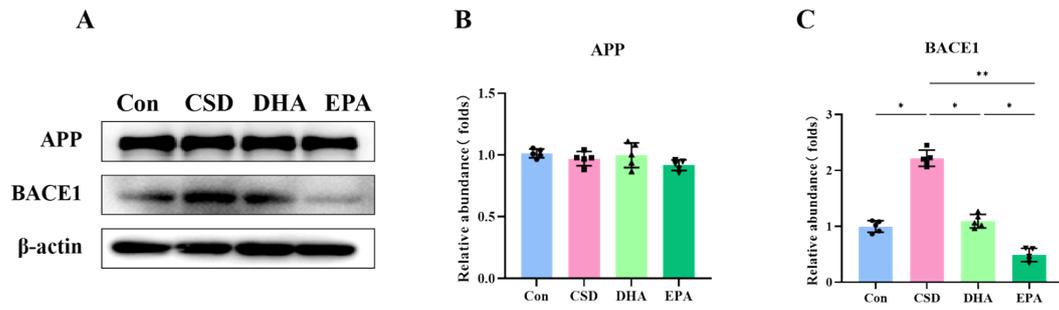


Figure S1. (A-B) Western blots show the expression of brain APP, BACE1. β -actin was used as a loading control in western blot analysis. All data are presented as the mean \pm SEM (n = 5). * Indicates a significant difference between each group (* P < 0.05, ** P < 0.01).

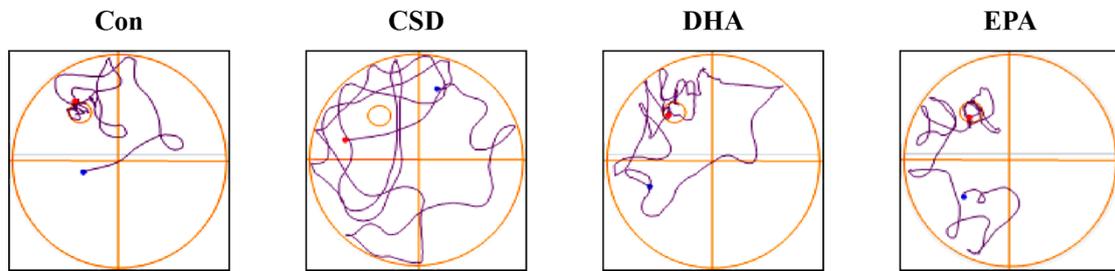


Figure S2. Representative trajectories of mice in each group in the water maze task.