**Table S1. Hippocampal subfield volumes in patients with mood disorders (MDD and BD) and healthy controls.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Hippocampal volumes (mm3)** | **MDD (n=102)** | **BD (n=55)** | **HC (n=135)** |
| **Mean** | **SD** | **Mean** | **SD** | **Mean** | **SD** |
| **Left hemisphere** |  |  |  |  |  |  |
| CA1 | 631.782 | 83.848  | 638.739 | 77.493  | 669.694 | 88.449  |
| CA2/3 | 202.501 | 35.014  | 208.034 | 32.286  | 216.619 | 33.640  |
| CA4 | 253.735 | 32.272  | 257.884 | 30.157  | 269.871 | 33.777  |
| GCL | 289.698 | 36.401  | 293.596 | 33.734  | 308.869 | 37.395  |
| ML | 539.450 | 60.848  | 549.222 | 59.144  | 572.241 | 64.663  |
| Presub | 256.115 | 30.489  | 254.422 | 34.326  | 269.122 | 35.769  |
| Sub | 405.616 | 46.568  | 418.333 | 52.621  | 423.675 | 54.302  |
| Hippocampal tail | 535.665 | 67.248  | 531.424 | 65.081  | 558.863 | 68.827  |
| Whole hippocampus | 3290.437 | 346.656  | 3326.328 | 331.537  | 3471.507 | 376.319  |
| **Right hemisphere** | 　 |  | 　 |  | 　 |  |
| CA1 | 660.783 | 76.182  | 662.325 | 80.317  | 704.067 | 85.319  |
| CA2/3 | 220.454 | 34.693  | 223.073 | 32.969  | 231.683 | 35.784  |
| CA4 | 263.886 | 29.735  | 262.459 | 30.582  | 276.568 | 33.936  |
| GCL | 301.602 | 34.189  | 299.657 | 36.092  | 317.769 | 37.579  |
| ML | 559.525 | 57.731  | 561.784 | 61.190  | 590.090 | 65.239  |
| Presub | 258.711 | 30.433  | 255.854 | 33.885  | 271.318 | 33.313  |
| Sub | 411.721 | 41.205  | 415.067 | 49.619  | 429.862 | 51.484  |
| Hippocampal tail | 567.584 | 61.622  | 568.092 | 67.335  | 589.658 | 74.267  |
| Whole hippocampus | 3414.503 | 333.224  | 3414.963 | 352.962  | 3589.696 | 386.913  |

MDD, major depressive disorder; BD, bipolar disorder; HC, healthy controls; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiclum; Sub, subiculum.

**Table S2. Hippocampal subfield volume differences between patients with bipolar I, bipolar II, and healthy controls.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Hippocampal volumes** | **BD I vs. HC** | **BD II vs. HC** | **BD I vs. BD II** |
| **F (1, 159)** | **P-value** | **Cohen's *f*** | **F (1, 156)** | **P-value** | **Cohen's *f*** | **F (1, 50)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |  |  |  |  |  |  |
| CA1 | 5.776 | 0.017  | 0.191  | 1.379 | 0.242 | 0.094 | 0.466 | 0.498 | 0.097 |
| CA2/3 | 4.072 | 0.045  | 0.160  | 0.268 | 0.605 | 0.041 | 0.814 | 0.371 | 0.128 |
| CA4 | 8.548 | 0.004  | 0.232  | 0.798 | 0.373 | 0.072 | 2.035 | 0.160 | 0.202 |
| GCL | 10.475 | **0.001**  | 0.257  | 1.458 | 0.229 | 0.097 | 1.891 | 0.175 | 0.194 |
| ML | 7.917 | 0.006  | 0.223  | 1.141 | 0.287 | 0.086 | 1.053 | 0.310 | 0.145 |
| Presub | 7.441 | 0.007  | 0.216  | 1.647 | 0.201 | 0.103 | 0.525 | 0.472 | 0.102 |
| Sub | 0.018 | 0.892  | 0.011  | 0.283 | 0.595 | 0.043 | 0.642 | 0.427 | 0.113 |
| Hippocampal tail | 12.144 | **6.37 x 10-4** | 0.276  | 0.027 | 0.870 | 0.013 | 5.262 | 0.026 | 0.324 |
| Whole hippocampus | 9.822 | **0.002**  | 0.249  | 1.278 | 0.260 | 0.091 | 1.581 | 0.214 | 0.178 |
| **Right hemisphere** | 　 |  | 　 |  | 　 |  | 　 | 　 | 　 |
| CA1 | 4.458 | 0.036  | 0.167  | 7.592 | 0.007 | 0.221 | 1.260 | 0.267 | 0.159 |
| CA2/3 | 1.473 | 0.227  | 0.096  | 1.870 | 0.173 | 0.109 | 0.112 | 0.739 | 0.047 |
| CA4 | 4.621 | 0.033  | 0.170  | 5.327 | 0.022 | 0.185 | 0.252 | 0.618 | 0.071 |
| GCL | 7.047 | 0.009  | 0.211  | 5.992 | 0.015 | 0.196 | 0.123 | 0.727 | 0.050 |
| ML | 4.522 | 0.035  | 0.169  | 5.768 | 0.017 | 0.192 | 0.615 | 0.437 | 0.111 |
| Presub | 5.997 | 0.015  | 0.194  | 4.342 | 0.039 | 0.167 | 0.002 | 0.961 | 0.007 |
| Sub | 0.506 | 0.478  | 0.056  | 3.044 | 0.083 | 0.140 | 1.577 | 0.215 | 0.178 |
| Hippocampal tail | 7.360 | 0.007  | 0.215  | 0.039 | 0.843 | 0.016 | 4.391 | 0.041 | 0.296 |
| Whole hippocampus | 6.608 | 0.011  | 0.204  | 4.923 | 0.028 | 0.178 | 0.072 | 0.789 | 0.038 |

BD I, bipolar I disorder; BD II, bipolar II disorder; HC, healthy controls; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiclum; Sub, subiculum.

**Table S3. Hippocampal subfield volume differences between drug-naïve (n = 24) and antidepressant-treated (n = 78) patients with major depressive disorder.**

|  |  |
| --- | --- |
| **Hippocampal volumes** | **DMDD vs. MMDD**  |
| **F (1, 96)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |
| CA1 | 0.026 | 0.872  | 0.017 |
| CA2/3 | 1.391 | 0.241  | 0.121 |
| CA4 | 0.023 | 0.880  | 0.016 |
| GCL | 0.014 | 0.905  | 0.012 |
| ML | 0.001 | 0.981  | 0.002 |
| Presub | 0.095 | 0.759  | 0.032 |
| Sub | 2.467 | 0.120  | 0.161 |
| Hippocampal tail | 2.797 | 0.098  | 0.172 |
| Whole hippocampus | 0.100 | 0.753  | 0.032 |
| **Right hemisphere** | 　 |  | 　 |
| CA1 | 1.901 | 0.171  | 0.141 |
| CA2/3 | 0.002 | 0.961  | 0.005 |
| CA4 | 0.043 | 0.836  | 0.021 |
| GCL | 0.002 | 0.964  | 0.005 |
| ML | 1.293 | 0.258  | 0.117 |
| Presub | 1.066 | 0.304  | 0.106 |
| Sub | 2.488 | 0.118  | 0.162 |
| Hippocampal tail | 0.035 | 0.852  | 0.019 |
| Whole hippocampus | 0.429 | 0.514  | 0.067 |

DMDD, drug-naïve patients with major depressive disorder; MMDD, antidepressant-treated patients with major depressive disorder; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiculum; Sub, subiculum.

**Table S4. Hippocampal subfield volume differences between lithium-treated (n = 44) and non-treated (n = 11) patients with bipolar disorder.**

|  |  |
| --- | --- |
| **Hippocampal volumes** | **Li+ vs. Li-** |
| **F (1, 49)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |
| CA1 | 1.957 | 0.168  | 0.202 |
| CA2/3 | 1.933 | 0.171  | 0.201 |
| CA4 | 0.720 | 0.400  | 0.122 |
| GCL | 0.606 | 0.440  | 0.112 |
| ML | 0.368 | 0.547  | 0.088 |
| Presub | 0.436 | 0.512  | 0.095 |
| Sub | 1.025 | 0.316  | 0.146 |
| Hippocampal tail | 0.324 | 0.572  | 0.082 |
| Whole hippocampus | 0.094 | 0.761  | 0.044 |
| **Right hemisphere** | 　 |  | 　 |
| CA1 | 0.615 | 0.437  | 0.113 |
| CA2/3 | 2.067 | 0.157  | 0.208 |
| CA4 | 1.356 | 0.250  | 0.168 |
| GCL | 1.465 | 0.232  | 0.175 |
| ML | 1.909 | 0.173  | 0.199 |
| Presub | 3.199 | 0.080  | 0.258 |
| Sub | 0.326 | 0.571  | 0.082 |
| Hippocampal tail | 2.031 | 0.161  | 0.206 |
| Whole hippocampus | 2.259 | 0.139  | 0.217 |

Li+, lithium-treated patients with bipolar disorder; Li-, non-treated patients with bipolar disorder; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiculum; Sub, subiculum.

**Table S5. Hippocampal subfield volume differences between remitted and non-remitted patients in each group.**

|  |  |  |
| --- | --- | --- |
| **Hippocampal volumes** | **NR-MDD (n = 84)** **vs. R-MDD (n = 18)** | **NR-BD (n = 18) vs. R-BD (n = 37)** |
| **F (1, 97)** | **P-value** | **Cohen's *f*** | **F (1, 50)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |  |  |  |
| CA1 | 0.060 | 0.808  | 0.025 | 0.449 | 0.506  | 0.095 |
| CA2/3 | 0.172 | 0.680  | 0.042 | 1.602 | 0.211  | 0.179 |
| CA4 | 0.381 | 0.539  | 0.063 | 0.711 | 0.403  | 0.119 |
| GCL | 0.064 | 0.801  | 0.026 | 0.549 | 0.462  | 0.105 |
| ML | 0.135 | 0.714  | 0.037 | 0.866 | 0.357  | 0.132 |
| Presub | 0.179 | 0.674  | 0.043 | 0.189 | 0.665  | 0.062 |
| Sub | 0.922 | 0.339  | 0.098 | 0.267 | 0.608  | 0.073 |
| Hippocampal tail | 0.595 | 0.442  | 0.078 | 0.873 | 0.355  | 0.132 |
| Whole hippocampus | 0.000 | 0.998  | 0.000 | 1.195 | 0.280  | 0.155 |
| **Right hemisphere** | 　 |  | 　 | 　 |  | 　 |
| CA1 | 0.004 | 0.953  | 0.006 | 0.197 | 0.659  | 0.063 |
| CA2/3 | 0.334 | 0.564  | 0.059 | 1.910 | 0.173  | 0.195 |
| CA4 | 0.021 | 0.886  | 0.015 | 0.682 | 0.413  | 0.117 |
| GCL | 0.008 | 0.930  | 0.009 | 0.670 | 0.417  | 0.116 |
| ML | 0.000 | 0.987  | 0.002 | 0.751 | 0.390  | 0.123 |
| Presub | 0.052 | 0.820  | 0.023 | 0.014 | 0.905  | 0.017 |
| Sub | 0.721 | 0.398  | 0.086 | 0.443 | 0.509  | 0.094 |
| Hippocampal tail | 0.589 | 0.445  | 0.078 | 0.503 | 0.482  | 0.100 |
| Whole hippocampus | 0.042 | 0.838  | 0.021 | 0.925 | 0.341  | 0.136 |

NR-MDD, non-remitted patients with major depressive disorder; R-MDD, remitted patients with major depressive disorder; NR-BD, non-remitted patients with bipolar disorder; R-BD, remitted patients with bipolar disorder; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiclum; Sub, subiculum.

**Table S6. Hippocampal subfield volume difference between non-remitted patients with mood disorders and healthy controls.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hippocampal volumes** | **All groups** | **MDD vs. HC** | **BD vs. HC** | **MDD vs. BD** |
| **F (2, 231)** | **P-value** | **Cohen's *f*** | **F (1, 232)** | **P-value** | **Cohen's *f*** | **F (1, 148)** | **P-value** | **Cohen's *f*** | **F (1, 97)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |  |  |  |  |  |  |  |  |  |
| CA1 | 5.468 | 0.005 | 0.218  | 10.290 | **0.002**  | 0.219  | 2.563 | 0.112 | 0.132 | 0.005 | 0.942 | 0.007 |
| CA2/3 | 5.278 | 0.006 | 0.214  | 9.725 | **0.002** | 0.213  | 2.653 | 0.106 | 0.134 | 0.040 | 0.842 | 0.020 |
| CA4 | 7.483 | **7.10 x 10-4** | 0.255  | 13.487 | **3.04 x 10-4** | 0.251  | 3.532 | 0.062 | 0.154 | 0.097 | 0.756 | 0.032 |
| GCL | 9.127 | **1.53 x 10-4** | 0.281  | 16.437 | **7.04 x 10-5** | 0.277  | 4.113 | 0.044 | 0.167 | 0.142 | 0.707 | 0.038 |
| ML | 8.355 | **3.14 x 10-4** | 0.269  | 15.920 | **9.08 x 10-5** | 0.273  | 3.292 | 0.072 | 0.149 | 0.001 | 0.975 | 0.003 |
| Presub | 4.240 | 0.016 | 0.192  | 6.731 | 0.010 | 0.177  | 3.232 | 0.074 | 0.148 | 0.391 | 0.533 | 0.063 |
| Sub | 2.383 | 0.095 | 0.144  | 4.880 | 0.028 | 0.151  | 0.047 | 0.828 | 0.018 | 0.579 | 0.449 | 0.077 |
| Hippocampal tail | 4.303 | 0.015 | 0.193  | 6.065 | 0.015 | 0.168  | 4.018 | 0.047 | 0.165 | 0.551 | 0.460 | 0.075 |
| Whole hippocampus | 8.919 | **1.86 x 10-4** | 0.278  | 16.028 | **8.61 x 10-5** | 0.274  | 4.408 | 0.037 | 0.173 | 0.085 | 0.772 | 0.030 |
| **Right hemisphere** | 　 |  | 　 | 　 |  | 　 | 　 | 　 | 　 | 　 | 　 | 　 |
| CA1 | 8.467 | **2.83 x 10-4** | 0.271  | 15.631 | **1.05 x 10-4** | 0.270  | 3.873 | 0.051 | 0.162 | 0.051 | 0.822 | 0.023 |
| CA2/3 | 3.916 | 0.021 | 0.184  | 5.330 | 0.022 | 0.158  | 3.645 | 0.058 | 0.157 | 0.964 | 0.329 | 0.100 |
| CA4 | 5.860 | 0.003 | 0.225  | 7.996 | 0.005 | 0.193  | 4.824 | 0.030 | 0.181 | 1.752 | 0.189 | 0.134 |
| GCL | 7.631 | **0.001** | 0.257  | 11.188 | **9.72 x 10-4** | 0.229  | 5.777 | 0.017 | 0.198 | 1.558 | 0.215 | 0.127 |
| ML | 8.523 | **2.68 x 10-4** | 0.272  | 14.452 | **1.88 x 10-4** | 0.260  | 4.535 | 0.035 | 0.175 | 0.674 | 0.414 | 0.083 |
| Presub | 5.195 | 0.006 | 0.212  | 7.890 | 0.005 | 0.192  | 3.363 | 0.069 | 0.151 | 1.409 | 0.238 | 0.121 |
| Sub | 3.890 | 0.022 | 0.184  | 7.015 | 0.009 | 0.181  | 1.596 | 0.209 | 0.104 | 0.098 | 0.755 | 0.032 |
| Hippocampal tail | 2.361 | 0.097 | 0.143  | 3.463 | 0.064 | 0.127  | 1.669 | 0.198 | 0.106 | 0.481 | 0.490 | 0.070 |
| Whole hippocampus | 8.884 | **1.92 x 10-4** | 0.277  | 14.054 | **2.29 x 10-4** | 0.256  | 5.438 | 0.021 | 0.192 | 1.225 | 0.271 | 0.112 |

Bonferroni correction was applied: P < 0.05/18 = 0.00278

Significant hippocampal subfield volume differences are presented in a bold face.

MDD, major depressive disorder; BD, bipolar disorder; HC, healthy controls; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiclum; Sub, subiculum.

**Table S7. Hippocampal subfield volume differences between bipolar disorder patients with prior history of psychotic symptoms (n = 22) and those without (n = 33).**

|  |  |
| --- | --- |
| **Hippocampal volumes** | **Psychosis+ vs. Psychosis-** |
| **F (1, 50)** | **P-value** | **Cohen's *f*** |
| **Left hemisphere** |  |  |  |
| CA1 | 0.039 | 0.845  | 0.007 |
| CA2/3 | 0.134 | 0.716  | 0.020 |
| CA4 | 0.008 | 0.930  | 0.032 |
| GCL | 0.010 | 0.921  | 0.038 |
| ML | 0.092 | 0.763  | 0.003 |
| Presub | 0.418 | 0.521  | 0.063 |
| Sub | 1.561 | 0.217  | 0.077 |
| Hippocampal tail | 0.030 | 0.864  | 0.075 |
| Whole hippocampus | 0.300 | 0.586  | 0.030 |
| **Right hemisphere** | 　 |  | 　 |
| CA1 | 0.553 | 0.461  | 0.023 |
| CA2/3 | 1.228 | 0.273  | 0.100 |
| CA4 | 1.771 | 0.189  | 0.134 |
| GCL | 1.176 | 0.283  | 0.127 |
| ML | 1.364 | 0.248  | 0.083 |
| Presub | 0.285 | 0.596  | 0.121 |
| Sub | 2.104 | 0.153  | 0.032 |
| Hippocampal tail | 0.559 | 0.458  | 0.070 |
| Whole hippocampus | 0.669 | 0.417  | 0.112 |

Psychosis+, bipolar disorder patients with prior history of psychotic symptoms; Psychosis-, bipolar disorder patients without prior history of psychotic symptoms; CA, cornu ammonis; GCL, granular cell layer; ML, molecular cell layer; Presub, presubiclum; Sub, subiculum.