

Table 1. The mean±SD of sG1-4GN reactivity in the samples obtained from the subjects

|  | Light absorbance (450/655 nm) |
|--|-------------------------------|
| Positive Control<br>(Healthy volunteers)               | 0.074±0.005                   |
| DP (medicated Major<br>Depression patients)            | *0.101±0.008                  |
| MA (medicated<br>Mania patients)                       | *0.101±0.008                  |
| SZ (medicated<br>Schizophrenia patients)               | *0.107±0.005                  |
| Negative Control<br>(The sample: physiological saline) | 0.044±0.006                   |

The sG1-4GN: sulfated Galbeta1-4GlcNAc-lipid promoting the serotonergic module regulating the emotional behaviors for not-wasting the physical strength

\*p<0.05 compared to Positive Control, Mann-Whitney U test (n<sub>1</sub>=n<sub>2</sub>=5)

Table 2. The mean±SD of GN1-3GN reactivity in the samples obtained from the subjects

|  | Light absorbance (450/655 nm) |
|--|-------------------------------|
| Positive Control<br>(Healthy volunteers)               | 0.100±0.007                   |
| DP (medicated Major<br>Depression patients)            | *0.089±0.002                  |
| MA (medicated<br>Mania patients)                       | 0.114±0.013                   |
| SZ (medicated<br>Schizophrenia patients)               | 0.102±0.012                   |
| Negative Control<br>(The sample: physiological saline) | 0.054±0.004                   |

The GN1-3GN: GalNAc $\alpha$ 1-3GalNAc-lipid promoting the adrenergic module inducing the behaviors escaping from the uneasy situations

\*p<0.05 compared to Positive Control, Mann-Whitney U test (n<sub>1</sub>=n<sub>2</sub>=5)

Table 3. The mean±SD of sF1-2G reactivity in the samples obtained from the subjects

|  | Light absorbance (450/655 nm) |
|--|-------------------------------|
| Positive Control<br>(Healthy volunteers)               | 0.115±0.014                   |
| DP (medicated Major<br>Depression patients)            | *0.188±0.012                  |
| MA (medicated<br>Mania patients)                       | 0.136±0.010                   |
| SZ (medicated<br>Schizophrenia patients)               | 0.137±0.006                   |
| Negative Control<br>(The sample: physiological saline) | 0.045±0.006                   |

The sF1-2G: sulfated Fucal $\alpha$ 1-3Glc-lipid protecting the cholinergic module keeping the stressor-memories from the ischemia-stress

\*p<0.05 compared to Positive Control, Mann-Whitney U test (n<sub>1</sub>=n<sub>2</sub>=5)

Table 4. The mean±SD of S2-3G reactivity in the samples obtained from the subjects

|  | Light absorbance (450/655 nm) |
|--|-------------------------------|
| Positive Control<br>(Healthy volunteers)               | 0.074±0.007                   |
| DP (medicated Major<br>Depression patients)            | 0.099±0.002                   |
| MA (medicated<br>Mania patients)                       | 0.087±0.013                   |
| SZ (medicated<br>Schizophrenia patients)               | *0.200±0.018                  |
| Negative Control<br>(The sample: physiological saline) | 0.055±0.002                   |

The S2-3G: Sialalpha2-3Gal-lipid promoting the dopaminergic module coordinately integrating the emotion and recognition-behaviors

\*p<0.05 compared to Positive Control, Mann-Whitney U test (n<sub>1</sub>=n<sub>2</sub>=5)