|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sum or Ratio | Overall | Obesity Effect(LMW vs. OBMW, OBMUW) | Metabolic Wellness Trend (Nondiabetic)(LMW → OBMW → OBMUW) | Diabetic Effect(LMW, OBMW, OBMUW vs. OBDM) |
| HIS+ILE+LEU+ LYS+ MET+PHE+THR+TRP+ VAL | **0.002(↑)** | 0.01**(↑)** | **0.005 (↑)** | **0.003(↑)** |
| LEU+LYS | **0.0001(↑)** | **0.001 (↑)** | **0.0008 (↑)** | **0.0007 (↑)** |
| $$\frac{TRP}{(TYR+PHE+LEU+ILE+VAL)}$$ | **0.0002(↑)** | 0.007**(↑)** | **0.001 (↓)** | **0.0007 (↓)** |
| $$\frac{(C3+C5)}{Total carnitine}$$ | **0.0009(↑)** | **0.0003(↑)** | **0.0004 (↑)** | 0.05**(↑)** |