**Table S14. Pairwise semantic similarity values calculated on the set of significantly enriched Biological Process GO terms between tissues (*nS*L in Europeans)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tissue1** | **Tissue2** | **Empirical SS values** | **Permutation SS values** |
| adipose-tissue | blood-vessel | 0.976 | 0.251 |
| adipose-tissue | brain | 0.956 | 0.246 |
| adipose-tissue | esophagus | 0.879 | 0.257 |
| adipose-tissue | eye | 1 | 0.243 |
| adipose-tissue | heart | 0.951 | 0.263 |
| adipose-tissue | large-intestine | 1 | 0.257 |
| adipose-tissue | meninx | 1 | 0.248 |
| adipose-tissue | salivary-gland | 0.879 | 0.256 |
| adipose-tissue | skeletal-muscle | 0.917 | 0.254 |
| adipose-tissue | small-intestine | 1 | 0.244 |
| adipose-tissue | spleen | 1 | 0.247 |
| adipose-tissue | thymus | 0.869 | 0.248 |
| adipose-tissue | tonsil | 0.915 | 0.252 |
| adipose-tissue | urinary-bladder | 0.976 | 0.26 |
| adipose-tissue | vagina | 0.869 | 0.261 |
| blood-vessel | brain | 0.985 | 0.259 |
| blood-vessel | esophagus | 0.914 | 0.258 |
| blood-vessel | eye | 0.976 | 0.252 |
| blood-vessel | heart | 0.915 | 0.26 |
| blood-vessel | large-intestine | 0.976 | 0.252 |
| blood-vessel | meninx | 0.976 | 0.254 |
| blood-vessel | salivary-gland | 0.914 | 0.264 |
| blood-vessel | skeletal-muscle | 0.944 | 0.257 |
| blood-vessel | small-intestine | 0.976 | 0.257 |
| blood-vessel | spleen | 0.976 | 0.256 |
| blood-vessel | thymus | 0.859 | 0.256 |
| blood-vessel | tonsil | 0.947 | 0.254 |
| blood-vessel | urinary-bladder | 1 | 0.259 |
| blood-vessel | vagina | 0.905 | 0.262 |
| brain | esophagus | 0.905 | 0.259 |
| brain | eye | 0.956 | 0.242 |
| brain | heart | 0.884 | 0.244 |
| brain | large-intestine | 0.956 | 0.253 |
| brain | meninx | 0.956 | 0.247 |
| brain | salivary-gland | 0.905 | 0.254 |
| brain | skeletal-muscle | 0.934 | 0.263 |
| brain | small-intestine | 0.956 | 0.26 |
| brain | spleen | 0.956 | 0.25 |
| brain | thymus | 0.849 | 0.245 |
| brain | tonsil | 0.935 | 0.254 |
| brain | urinary-bladder | 0.985 | 0.253 |
| brain | vagina | 0.897 | 0.254 |
| esophagus | eye | 0.879 | 0.248 |
| esophagus | heart | 0.811 | 0.246 |
| esophagus | large-intestine | 0.879 | 0.249 |
| esophagus | meninx | 0.879 | 0.246 |
| esophagus | salivary-gland | 1 | 0.26 |
| esophagus | skeletal-muscle | 0.86 | 0.255 |
| esophagus | small-intestine | 0.879 | 0.258 |
| esophagus | spleen | 0.879 | 0.248 |
| esophagus | thymus | 0.939 | 0.258 |
| esophagus | tonsil | 0.847 | 0.251 |
| esophagus | urinary-bladder | 0.914 | 0.26 |
| esophagus | vagina | 0.99 | 0.264 |
| eye | heart | 0.951 | 0.24 |
| eye | large-intestine | 1 | 0.259 |
| eye | meninx | 1 | 0.249 |
| eye | salivary-gland | 0.879 | 0.251 |
| eye | skeletal-muscle | 0.917 | 0.257 |
| eye | small-intestine | 1 | 0.253 |
| eye | spleen | 1 | 0.243 |
| eye | thymus | 0.869 | 0.253 |
| eye | tonsil | 0.915 | 0.251 |
| eye | urinary-bladder | 0.976 | 0.263 |
| eye | vagina | 0.869 | 0.248 |
| heart | large-intestine | 0.951 | 0.246 |
| heart | meninx | 0.951 | 0.242 |
| heart | salivary-gland | 0.811 | 0.248 |
| heart | skeletal-muscle | 0.861 | 0.244 |
| heart | small-intestine | 0.951 | 0.247 |
| heart | spleen | 0.951 | 0.249 |
| heart | thymus | 0.803 | 0.253 |
| heart | tonsil | 0.848 | 0.247 |
| heart | urinary-bladder | 0.915 | 0.249 |
| heart | vagina | 0.802 | 0.252 |
| large-intestine | meninx | 1 | 0.251 |
| large-intestine | salivary-gland | 0.879 | 0.257 |
| large-intestine | skeletal-muscle | 0.917 | 0.253 |
| large-intestine | small-intestine | 1 | 0.251 |
| large-intestine | spleen | 1 | 0.249 |
| large-intestine | thymus | 0.869 | 0.257 |
| large-intestine | tonsil | 0.915 | 0.251 |
| large-intestine | urinary-bladder | 0.976 | 0.253 |
| large-intestine | vagina | 0.869 | 0.258 |
| meninx | salivary-gland | 0.879 | 0.256 |
| meninx | skeletal-muscle | 0.917 | 0.248 |
| meninx | small-intestine | 1 | 0.243 |
| meninx | spleen | 1 | 0.242 |
| meninx | thymus | 0.869 | 0.247 |
| meninx | tonsil | 0.915 | 0.252 |
| meninx | urinary-bladder | 0.976 | 0.252 |
| meninx | vagina | 0.869 | 0.243 |
| salivary-gland | skeletal-muscle | 0.86 | 0.261 |
| salivary-gland | small-intestine | 0.879 | 0.253 |
| salivary-gland | spleen | 0.879 | 0.259 |
| salivary-gland | thymus | 0.939 | 0.25 |
| salivary-gland | tonsil | 0.847 | 0.26 |
| salivary-gland | urinary-bladder | 0.914 | 0.259 |
| salivary-gland | vagina | 0.99 | 0.251 |
| skeletal-muscle | small-intestine | 0.917 | 0.26 |
| skeletal-muscle | spleen | 0.917 | 0.249 |
| skeletal-muscle | thymus | 0.812 | 0.251 |
| skeletal-muscle | tonsil | 0.89 | 0.259 |
| skeletal-muscle | urinary-bladder | 0.944 | 0.253 |
| skeletal-muscle | vagina | 0.852 | 0.252 |
| small-intestine | spleen | 1 | 0.245 |
| small-intestine | thymus | 0.869 | 0.255 |
| small-intestine | tonsil | 0.915 | 0.256 |
| small-intestine | urinary-bladder | 0.976 | 0.258 |
| small-intestine | vagina | 0.869 | 0.256 |
| spleen | thymus | 0.869 | 0.243 |
| spleen | tonsil | 0.915 | 0.247 |
| spleen | urinary-bladder | 0.976 | 0.245 |
| spleen | vagina | 0.869 | 0.252 |
| thymus | tonsil | 0.786 | 0.262 |
| thymus | urinary-bladder | 0.859 | 0.258 |
| thymus | vagina | 0.929 | 0.253 |
| tonsil | urinary-bladder | 0.947 | 0.254 |
| tonsil | vagina | 0.849 | 0.253 |
| urinary-bladder | vagina | 0.905 | 0.253 |

All values have been rounded to the 3rd decimal place. “Permutation SS values” refer to the 95th

percentile values of the distribution of 1,000 semantic similarity scores calculated on the randomly sampled GO terms for each pair of tissues.