**Supplementary Table 1.** The GWAS data about associations of the studied candidate gene polymorphisms with the circulating SHBG and other sex hormone concentrations.

| SNP, gene | Chromosome position (hg38) | Phenotype | Association (significance) (affected allele) | Reference |
|---|---|---|---|---|
| rs17496332 *PRMT6* | 1p13.3 (107003753) | SHBG | $\beta$=-0.028 (p=1×10$^{-11}$) (A) | [19] |
| rs780093 *GCKR* | 2p23.3 (27519736) | SHBG | $\beta$=-0.032 (p=2×10$^{-16}$) (T) | [19] |
| rs10454142 *FOXN2* | 2p16.3 (48419260) | SHBG | $\beta$=0.026 (p=1×10$^{-7}$) (T) | [19] |
| rs3779195 *BAIAP2L1* | 7q21.3 (98364050) | SHBG | $\beta$=-0.033 (p=3×10$^{-8}$) (A) | [19] |
| | | SHBG (women, pre-menopause) | $\beta$=-2.41 (p=9×10$^{-09}$) (A) | [44] |
| rs440837 *ZBTB10* | 8q21.13 (80549739) | SHBG | $\beta$=-0.030 (p=3×10$^{-9}$) (A) | [19] |
| | | SHBG (women, post-menopause) | $\beta$=1.43 (p=1×10$^{-12}$) (G) | [44] |
| | | SHBG (men) | $\beta$=0.57 (p=8×10$^{-9}$) (G) | [44] |
| rs7910927 *JMJD1C* | 10q21.3 (63379150) | SHBG | $\beta$=-0.048 (p=6×10$^{-35}$) (T) | [19] |
| rs4149056 *SLCO1B1* | 12p12.1 (21178615) | SHBG | $\beta$=0.029 (p=2×10$^{-8}$) (T) | [19] |
| | | low testosterone levels (men) | OR=1.14 (p=7×10$^{-16}$) (C) | [45] |
| | | testosterone (women) | $\beta$=0.028 (p=5×10$^{-10}$) (C) | [46] |
| | | SHBG (women) | $\beta$=-0.065 (p =5×10$^{-48}$) (C) | [46] |
| | | SHBG (women, pre-menopause) | $\beta$=-0.062 (p=8×10$^{-11}$) (C) | [46] |
| | | SHBG (women, post-menopause) | $\beta$=-0.079 (p=7×10$^{-34}$) (C) | [46] |
| | | bioavailable testosterone (women) | $\beta$=0.02 (p=2×10$^{-16}$) (C) | [44] |
| | | SHBG (men) | $\beta$=-1.23 (p=7×10$^{-29}$) (C) | [44] |
| | | SHBG (women) | $\beta$=0.030 (p=1×10$^{-73}$) (T) | [47] |
| | | SHBG (men) | $\beta$=0.032 (p=6×10$^{-99}$) (T) | [47] |
| | | total testosterone (women) | $\beta$=-0.029 (p=1×10$^{-14}$) (T) | [47] |

| | | | | |
|---|---|---|---|---|
| | | bioavailable testosterone (women) | $\beta=-0.043$ (p=$3\times10^{-35}$) (T) | [47] |
| | | total testosterone (men) | $\beta=0.054$ (p=$1\times10^{-39}$) (T) | [47] |
| rs8023580 *PPP1R21* | 15q26.2 (96165062) | SHBG | $\beta=-0.03$ (p=$8\times10^{-12}$) (T) | [19] |
| | | low testosterone levels (men) | OR=1.13 (p=$1\times10^{-19}$) (T) | [45] |
| rs12150660 *SHBG* | 17p13.1 (7618597) | SHBG | $\beta=0.103$ (p=$2\times10^{-106}$) (T) | [19] |
| | | SHBG (women) | $\beta=6.14$ (p=$1\times10^{-300}$) (T) | [44] |
| | | SHBG (men) | $\beta=3.9$ (p=$2\times10^{-75}$) (T) | [48] |
| | | total testosterone (men) | $\beta=31.8$ (p=$1\times10^{-41}$) (T) | [48] |