Table S8. Disproportionate contribution of androgen- (AR) and estrogen- (ER) responsive genes and of sex-heterogeneous markers to WTCCC diseases and GIANT anthropometric traits

<table>
<thead>
<tr>
<th>Disease/Trait</th>
<th>AR&lt;sup&gt;^&lt;/sup&gt;</th>
<th>ER&lt;sup&gt;^&lt;/sup&gt;</th>
<th>Heterogeneous SNPs&lt;sup&gt;^&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p&lt;sup&gt;P&lt;/sup&gt;</td>
<td>p&lt;sup&gt;P&lt;/sup&gt;</td>
<td>p&lt;sup&gt;P&lt;/sup&gt;</td>
</tr>
<tr>
<td>AS*</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>BD</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>CAD</td>
<td>NS</td>
<td>0.032&lt;sup&gt;#&lt;/sup&gt; (females)</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (females)</td>
</tr>
<tr>
<td>CD*</td>
<td>0.023&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>0.068&lt;sup&gt;#&lt;/sup&gt; (males)</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (females)</td>
</tr>
<tr>
<td>HT</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>MS*</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>RA*</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (males)</td>
</tr>
<tr>
<td>T1D*</td>
<td>0.084&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>0.016&lt;sup,#&lt;/sup&gt; (females)</td>
<td>NS&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>T2D</td>
<td>NS</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (males); 0.034&lt;sup&gt;^&lt;/sup&gt; (females)</td>
</tr>
<tr>
<td>BMI</td>
<td>NS</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>HIP</td>
<td>0.093&lt;sup&gt;#&lt;/sup&gt; (males)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>HIP-a</td>
<td>&lt;0.001 (all)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>WC</td>
<td>NS</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>WC-a</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (males)</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>WHR</td>
<td>0.041&lt;sup&gt;^&lt;/sup&gt; (females)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>WHR-a</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>0.034&lt;sup&gt;^&lt;/sup&gt; (males)</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>Height</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.026&lt;sup&gt;^&lt;/sup&gt; (males)</td>
<td>NS</td>
<td>&lt;0.001&lt;sup&gt;^&lt;/sup&gt; (all)</td>
</tr>
</tbody>
</table>

Abbreviations: AR androgen-responsive genes; ER estrogen-responsive genes; P p-value; NS not significant

<sup>^</sup> The AR genes and ER genes covered 6% and 3% of the total SNPs, respectively; Heterogeneous SNPs were 0.01% of all SNPs

<sup>#</sup> Empirical P < 0.1 were replaced with empirical p-values estimated with 1,000 permutations