



Tissue	Network type	Female modules preservation in male expression data	Male modules preservation in Female expression data	
Liver	WGCNA	0 modules non-conserved (0%) 30 modules conserved (100%)	1 module non-conserved (3%) 40 modules conserved (97%)	Avg. in liver across sexes: 5% non-conserved 95% conserved
	MEGENA	15 modules non-conserved (7%) 198 modules conserved (93%)	12 modules non-conserved (6%) 192 modules conserved (94%)	
	Avg. in each sex	Average in female liver: 4% non-conserved 96% conserved	Average in male liver: 5% non-conserved 95% conserved	
Adipose	WGCNA	6 modules non-conserved (20%) 24 modules conserved (80%)	4 modules non-conserved (15%) 26 modules conserved (85%)	Avg. in adipose tissue across sexes: 12% non-conserved 88% conserved
	MEGENA	4 modules non-conserved (5%) 81 modules conserved (95%)	3 modules non-conserved (4%) 79 modules conserved (96%)	
	Avg. in each sex	Average in female adipose: 13% non-conserved 87% conserved	Average in male adipose: 10% non-conserved 90% conserved	

Additional File 1: Z-summary scores for the module preservation of the female and male coexpression modules for both MEGENA and WGCNA methods in each tissue. Preservation of the female MEGENA modules in male MEGENA modules for (A) Liver and (B) Adipose tissues. Preservation of female WGCNA modules in male WGCNA modules for (C) Liver and (D) Adipose tissues. Preservation of the male MEGENA modules in female MEGENA modules for (E) Liver and (F) Adipose tissues. Preservation of male WGCNA modules in female WGCNA modules for (G) Liver and (H) Adipose tissues. A Z-summary score <2 (dashed blue line) shows no preservation, whereas a Z-summary score >2 shows evidence for the preservation. (I) Mutual preservation ratios of female and male coexpression modules for both methods and both tissues.