

## SUPPLEMENTARY TABLES

**Supplementary Table 3. Gene ontology terms enriched among the list of genes identified in pathways and FDR corrected Q values from GeneMania analysis.**

| Function                                                                               | FDR   | Genes in network | Genes in genome |
|----------------------------------------------------------------------------------------|-------|------------------|-----------------|
| Nephron development                                                                    | 0.034 | 5                | 84              |
| Main axon                                                                              | 0.034 | 4                | 38              |
| Glomerulus development                                                                 | 0.034 | 4                | 42              |
| Cell adhesion mediator activity                                                        | 0.038 | 4                | 56              |
| Regulation of transmembrane receptor protein serine/threonine kinase signaling pathway | 0.038 | 6                | 201             |
| Regulation of pathway-restricted SMAD protein phosphorylation                          | 0.038 | 4                | 58              |
| Kidney vasculature development                                                         | 0.038 | 3                | 18              |
| Transmembrane receptor protein serine/threonine kinase signaling pathway               | 0.038 | 7                | 282             |
| Kidney development                                                                     | 0.038 | 5                | 115             |
| Renal system vasculature development                                                   | 0.038 | 3                | 18              |
| Pathway-restricted SMAD protein phosphorylation                                        | 0.039 | 4                | 60              |
| Regulation of epidermal growth factor-activated receptor activity                      | 0.062 | 3                | 24              |
| Endocardial cushion morphogenesis                                                      | 0.065 | 3                | 25              |
| Renal system development                                                               | 0.081 | 5                | 151             |
| Cardiac chamber morphogenesis                                                          | 0.085 | 4                | 79              |
| Urogenital system development                                                          | 0.088 | 5                | 158             |
| Neuron recognition                                                                     | 0.096 | 3                | 31              |

**Supplementary Table 4. Correlations among aging measures in HRS.**

|                             |       |           |            |             |                       |                           |                            |                             |
|-----------------------------|-------|-----------|------------|-------------|-----------------------|---------------------------|----------------------------|-----------------------------|
| TraMA                       | –     | 0.835     | 0.838      | 0.744       | 0.657                 | 0.329                     | 0.397                      | 0.283                       |
| PCGrimAge                   | 0.835 | –         | 0.840      | 0.719       | 0.279                 | 0.479                     | 0.273                      | 0.152                       |
| PCPhenoAge                  | 0.838 | 0.840     | –          | 0.749       | 0.381                 | 0.304                     | 0.632                      | 0.274                       |
| ExpandedAge                 | 0.744 | 0.719     | 0.749      | –           | 0.349                 | 0.199                     | 0.343                      | 0.692                       |
| Age Accelerated TraMA       | 0.657 | 0.279     | 0.381      | 0.349       | –                     | 0.537                     | 0.597                      | 0.449                       |
| Age Accelerated PCGrimAge   | 0.329 | 0.479     | 0.304      | 0.199       | 0.537                 | –                         | 0.520                      | 0.303                       |
| Age Accelerated PCPhenoAge  | 0.397 | 0.273     | 0.632      | 0.343       | 0.597                 | 0.520                     | –                          | 0.443                       |
| Age Accelerated ExpandedAge | 0.283 | 0.152     | 0.274      | 0.692       | 0.449                 | 0.303                     | 0.443                      | –                           |
|                             | TraMA | PCGrimAge | PCPhenoAge | ExpandedAge | Age Accelerated TraMA | Age Accelerated PCGrimAge | Age Accelerated PCPhenoAge | Age Accelerated ExpandedAge |

Age accelerated values are residuals from a regression of the aging measure on chronological age.