Supplementary Materials

Sexual dimorphism and ageing in the human hyppocampus: Identification, validation and impact of differentially expressed genes by factorial microarray and network analysis

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Table S4: Main metabolic functional classes prevailing by the Age Ratio$^{\#}$ discriminating criterion. Functionalities are derived by ontology analysis of the compatible metabolic networks built from nucleus 1, derived from the whole list of age-dependent genes (for details see the Supplementary Table S5).

Ontology Process (metabolic)	**Set of genes with Age Ratio$^{\#}$ < 1**	**Set of genes with Age Ratio$^{\#}$> 1**
	Hypergeometric Probability*	Hypergeometric Probability*
Hexoses metabolism, Glycolysis	1.8 x10^{-6}	4 x 10^{-2}
Mitochondrial matrix, aerobic respiration, respiratory electron chain	7.0x10^{-3}	1.5 x10^{-4}
Glycerolipids, Lipid biosynthesis	8.4 x10^{-7}	NDAS
Dicarboxylic Acid transport	6.0 x10^{-7}	4.5x10^{-9}
Monocarboxylic Acid transport and metabolism	1.8 x 10^{-6}	3.7x10^{-5}
Glutamine and glutamate transport	NDAS	6.3 x10^{-7}
Serine, branched amino-acids, and proline transport;	3.0 x10^{-7}	NDAS
Thyroid hormone transport	1.5 x 10^{-6}	NDAS
Heme /Iron-binding	2.8 x 10^{-6}	3.1 x10^{-5}
Golgi cysterna membrane and Golgi stacking. Microsome	3.0 x10^{-5}	2.6 x 10^{-4}
Glycosyl-transferase activity in Golgi	2.0 x 10^{-5}	4.2 x10^{-5}
Pre-assembly GPI-anchored in ER membrane	6.0 x10^{-7}	5.1 x 10^{-6}
Xenobiotic response	6.4 x 10^{-8}	4.4 x 10^{-12}
Nucleosides biosynthesis and nucleotide savage	7.8 x 10^{-7}	3.7 x 10^{-7}
3’,5’-cyclic –AMP phosphodiesterase activity	5.4 x10^{-7}	4.3 x 10^{-6}
Aromatase activity	6.8 x 10^{-4}	5.2 x 10^{-7}
Calcium homeostasis	5.9 x10-^{2}	2.7 x 10^{-5}

* The hypergeometric probabilities are values corrected for the multi-comparisons. In addition, the values indicated are the averages of the probabilities along the several ontology categories that make up each sub-group defined, but weighed according to the relative frequency of the initial ontology classes that resulted from the analysis; ** NDAS: no-detected as significant