

Table S22. GeneIndexer interrogation of RXFP3 ‘control’ interactome. Latent Semantic Indexing (LSI)-based informatic platform GeneIndexer (<https://geneindexer.com/>) is able to measure the degree of association of biomedical gene symbol identifiers of proteins with input interrogator concept terms through unbiased Cosine Similarity Score analysis. We cross-interrogated the obtained RXFP3 ‘control’ interactome dataset, with the following age-related syntactic concepts (Aging): *Neurodegeneration (ND)*, *Cognitive impairment (CI)*, *Senescence (S)*, *Parkinson's Disease (PD)*, *Amyotrophic lateral sclerosis (ALS)*, *Alzheimer's Disease (AD)*; and non-age-related terms (non-Aging): *Tuberculosis (TB)*, *Spina Bifida (SB)*, *Asthma (A)*, *Tourette syndrome (TS)*, *ADHD*, *Achondroplasia (AP)*. GeneIndexer extracts all gene-to-word relationships from the literature using LSI, which we then averaged per interrogator term and per interrogator group, *i.e.* ‘Aging’ vs. ‘non-Aging’. Here a cosine similarity score larger than 0.2 typically specifies an explicit association, while a score lower than 0.2 indicates an implied relationship, a cutoff score was set at 0.1.

Gene	Aging						Non-Aging					
	ND	CI	AD	S	PD	ALS	TS	AP	A	ADHD	TB	SB
<i>PHB</i>	0.150	0.118	0.146	0.203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>PSMB6</i>	0.138	0.000	0.107	0.000	0.156	0.000	0.000	0.000	0.000	0.000	0.169	0.000
<i>HNRNPA2B1</i>	0.123	0.111	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RXFP3</i>	0.111	0.105	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>PSMA5</i>	0.200	0.150	0.272	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL13A</i>	0.106	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.144	0.000
<i>RPL14</i>	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>DNAJA1</i>	0.221	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL4</i>	0.124	0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL21</i>	0.000	0.159	0.106	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL11</i>	0.000	0.000	0.000	0.153	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL23</i>	0.000	0.000	0.000	0.103	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>MAP4</i>	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPS26</i>	0.131	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>RPL34</i>	0.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>HSPA8</i>	0.136	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>TCP1</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.102
<i>RPLP0</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.173

Average CSS	0.099	0.050	0.041	0.031	0.009	0.000	0.000	0.000	0.000	0.000	0.017	0.015
Average CSS	0.038						0.005					