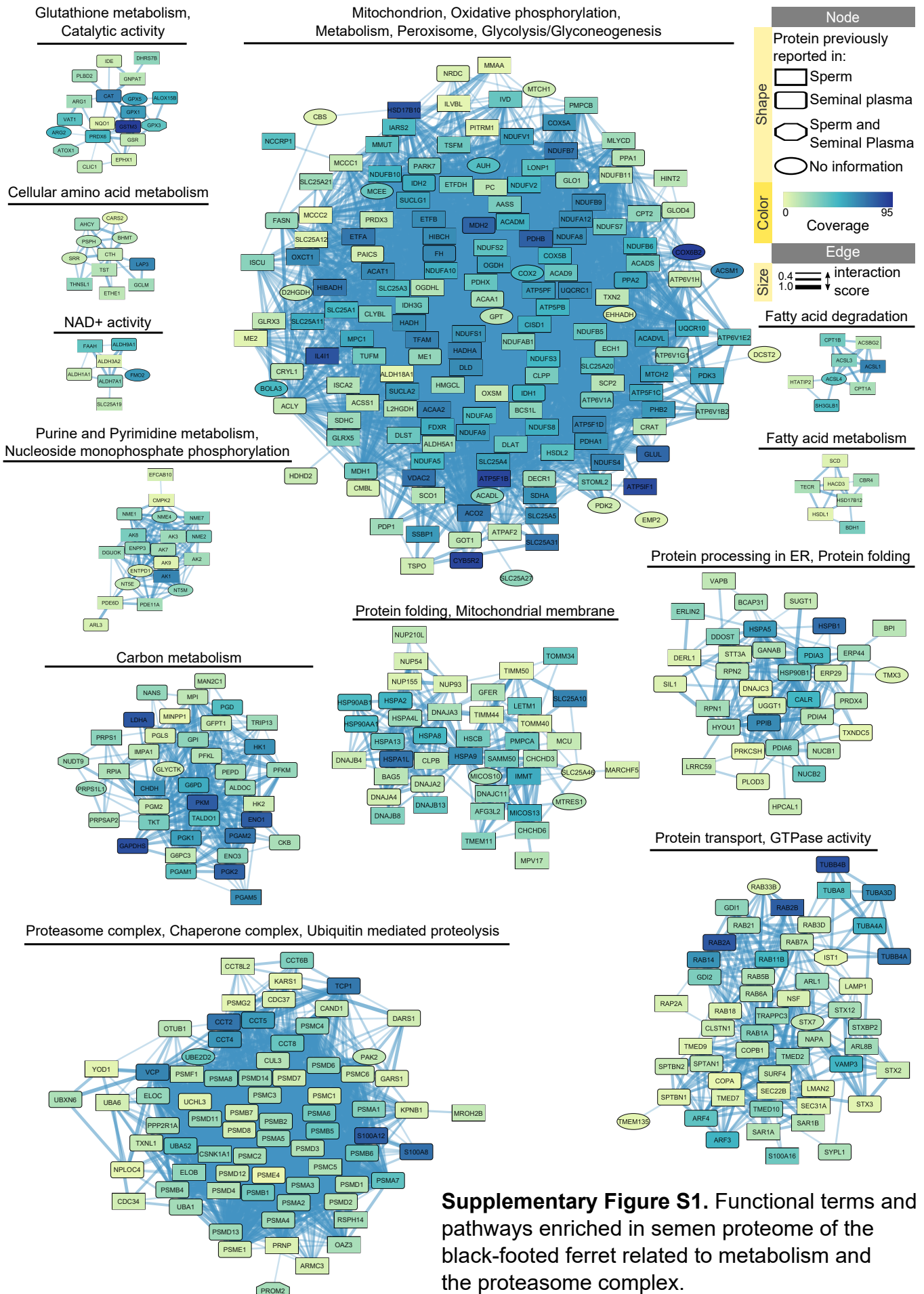
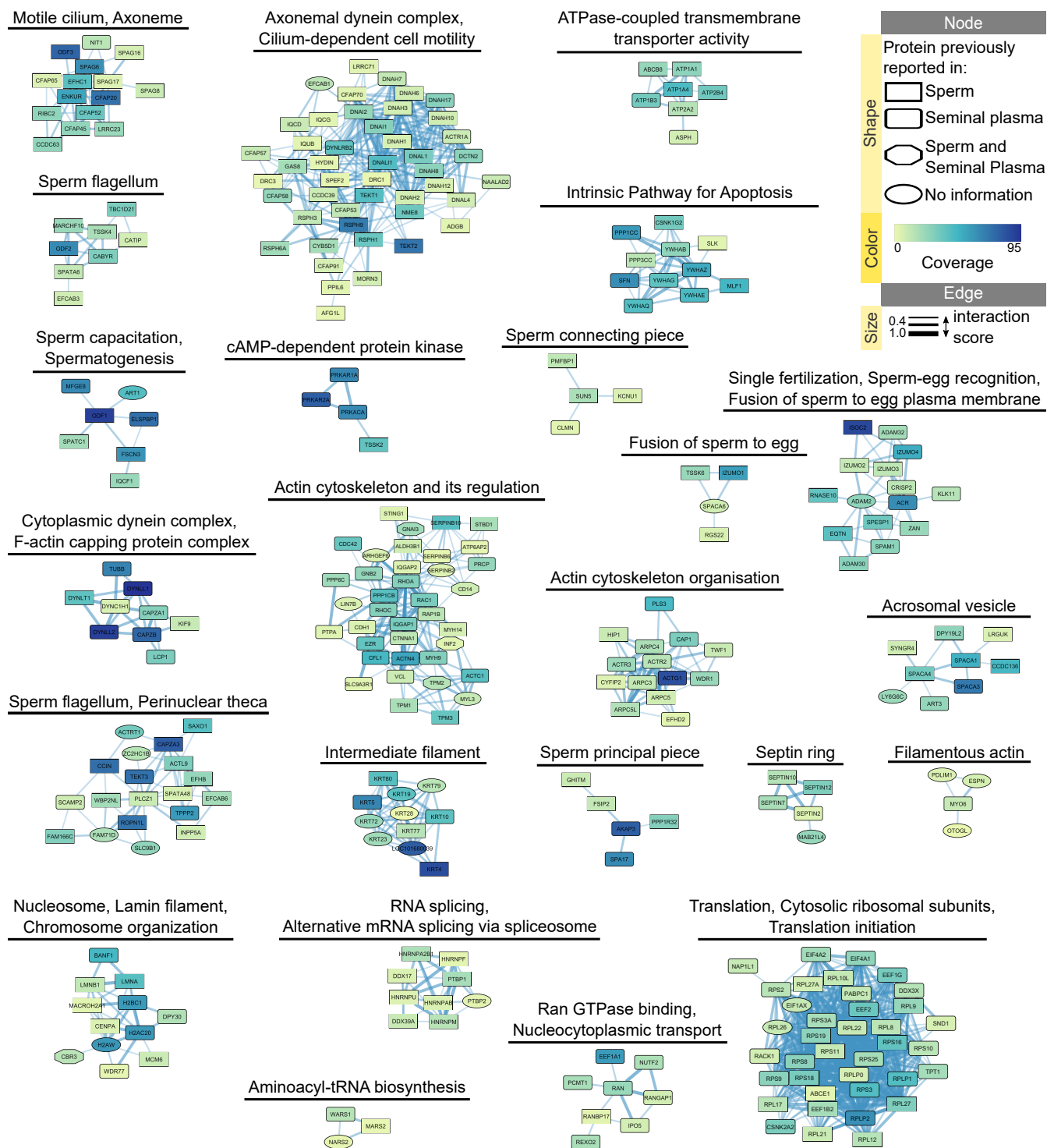


Supplementary Figure S1



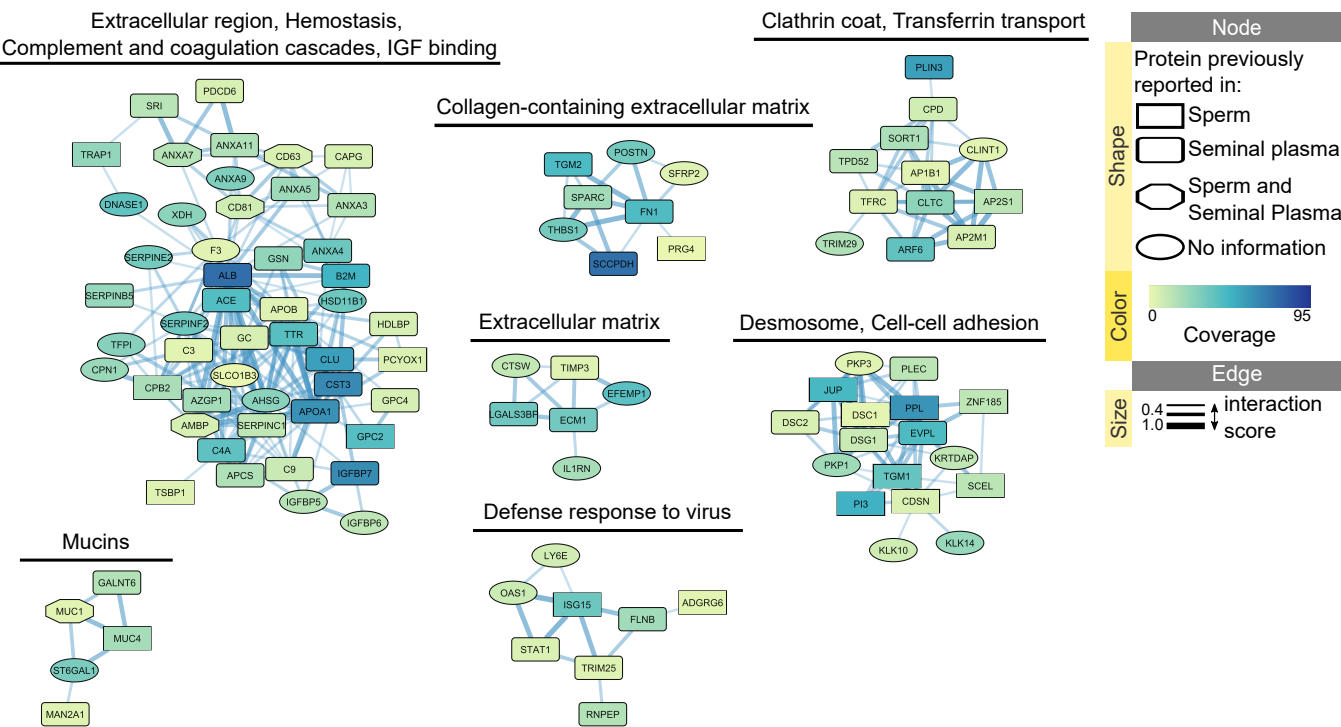
Supplementary Figure S1. Functional terms and pathways enriched in semen proteome of the black-footed ferret related to metabolism and the proteasome complex.

Supplementary Figure S2



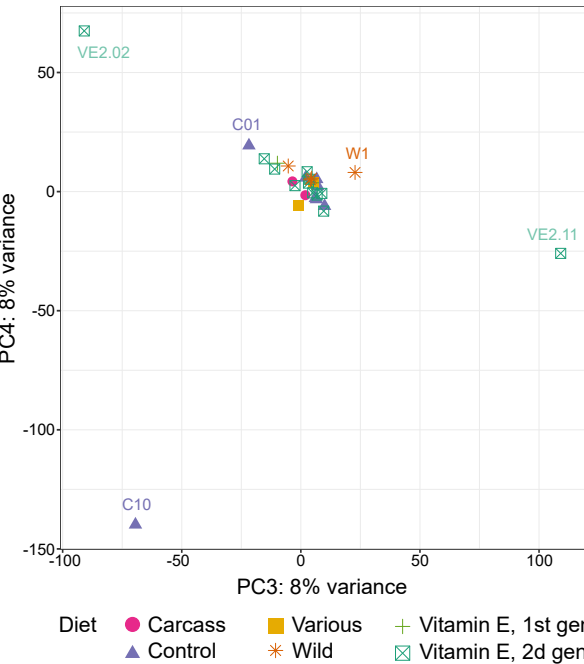
Supplementary Figure S2. Functional terms and pathways enriched in semen proteome of the black-footed ferret related to sperm structure, motility, capacitation, fertilization and translation.

Supplementary Figure S3



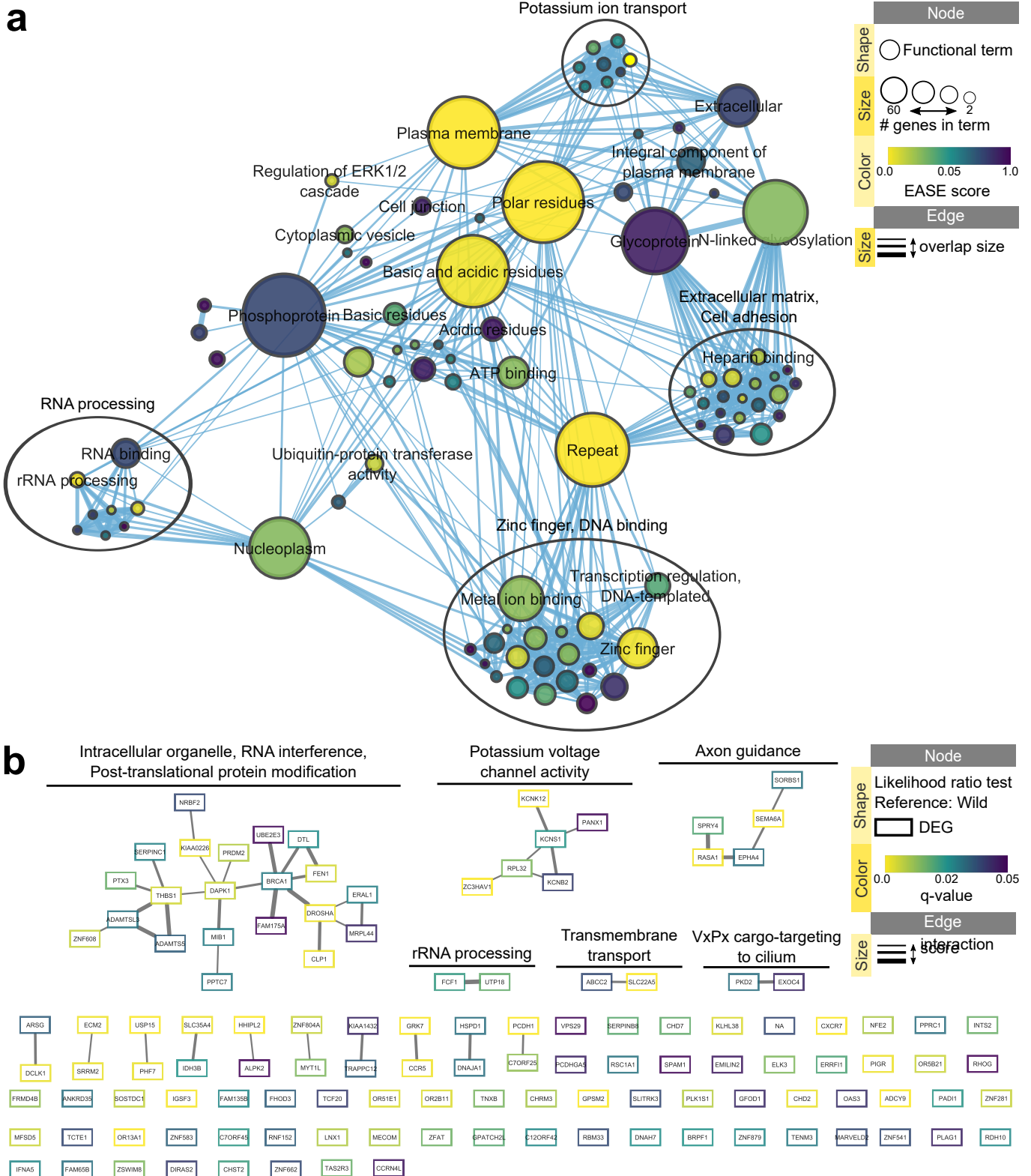
Supplementary Figure S3. Functional terms and pathways enriched in semen proteome of the black-footed ferret related to extracellular space.

Supplementary Figure S4

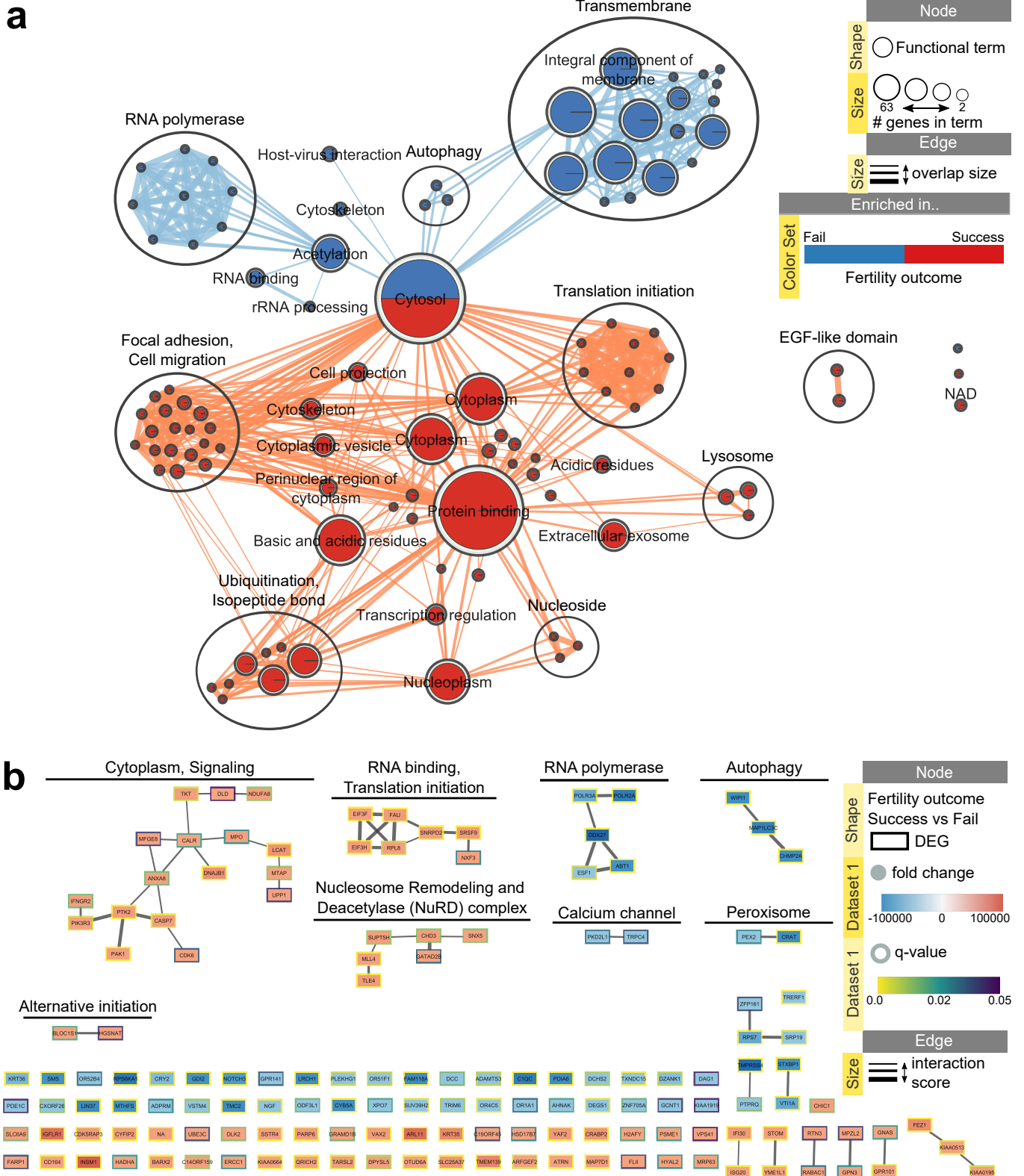


Supplementary Figure S4. Principal components 3 and 4 representing variation in semen transcriptome of all diet groups.

Supplementary Figure S5

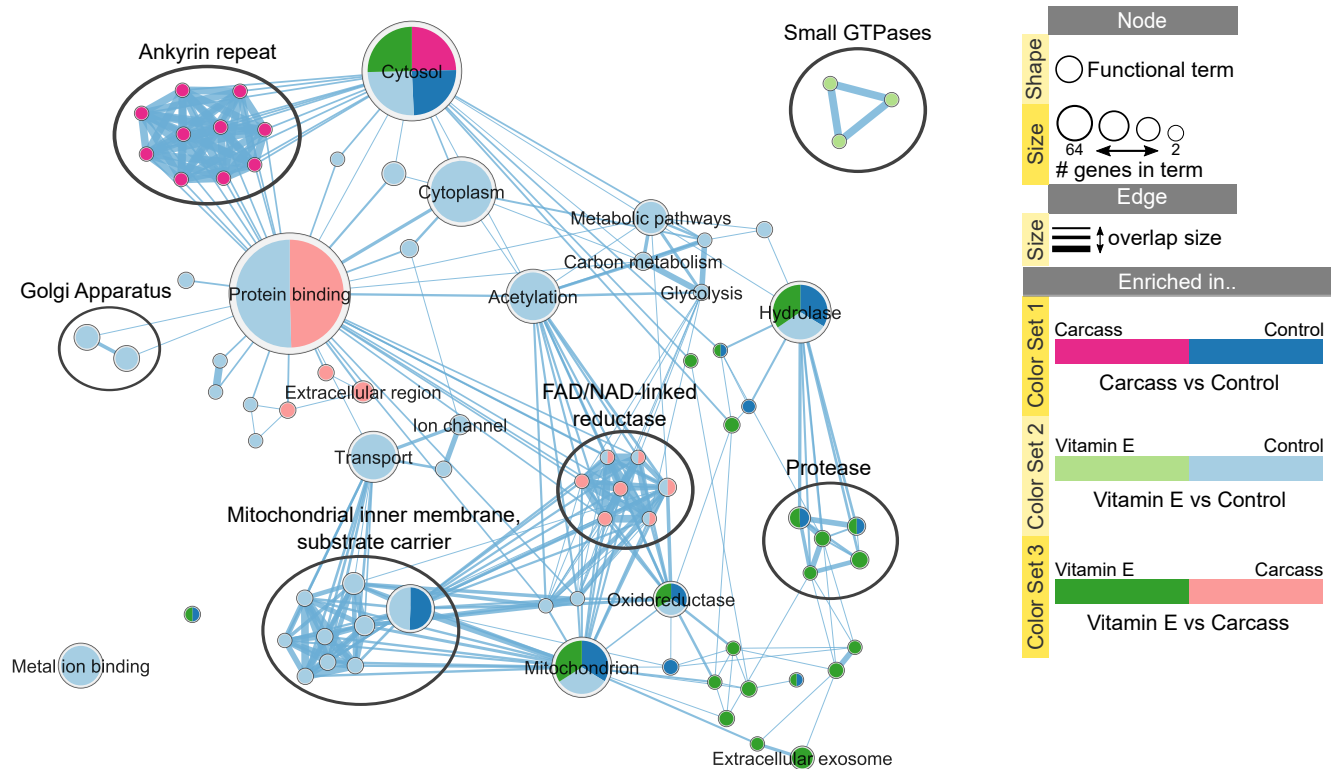


Supplementary Figure S6



Supplementary Figure S6. (a) EnrichmentMap displaying enriched gene-sets and **(b)** STRING network of predicted protein interactions based on differentially expressed genes in semen of ferrets with success vs fail fertility outcome. Background for enrichment is set to *homo sapiens*.

Supplementary Figure S7



Supplementary Figure S7. EnrichmentMap displays enriched gene-sets based on differentially expressed genes between various diet comparison pairs with relation to fertility success. Background for enrichment is set to *homo sapiens*.