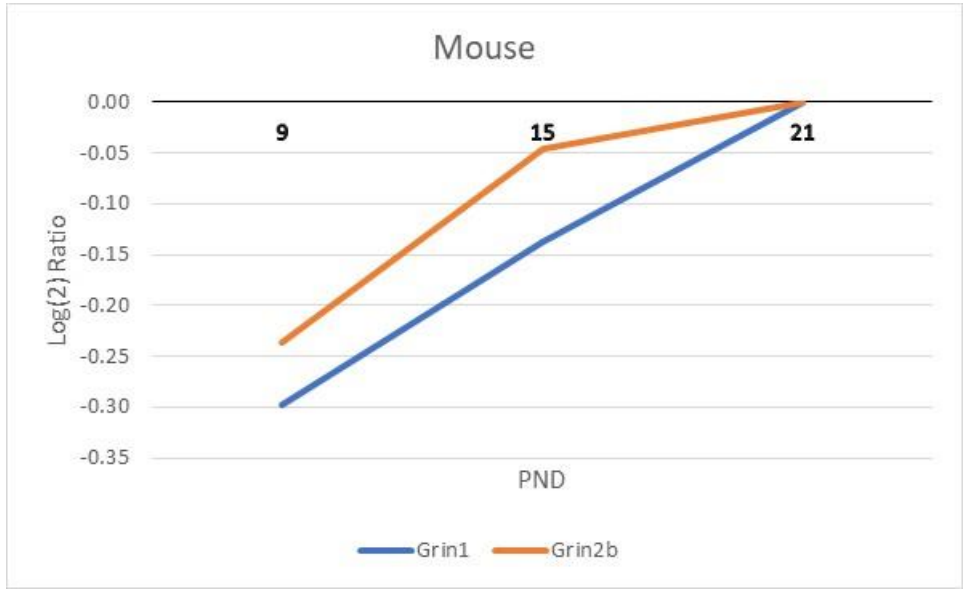
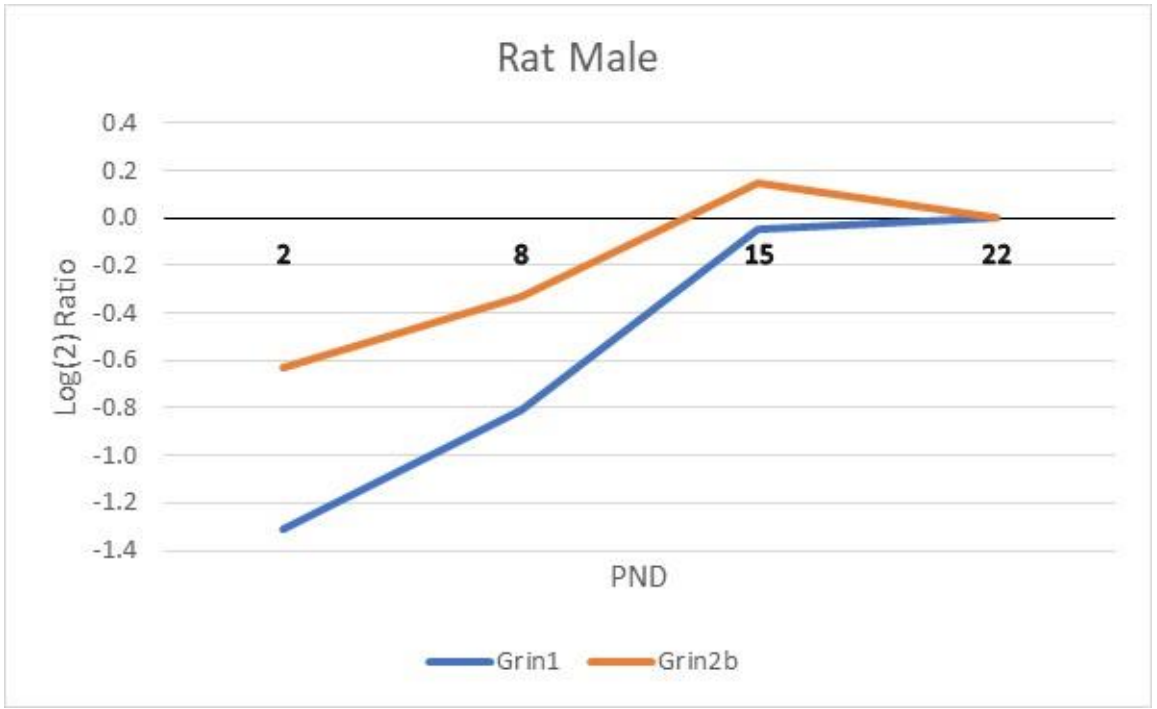
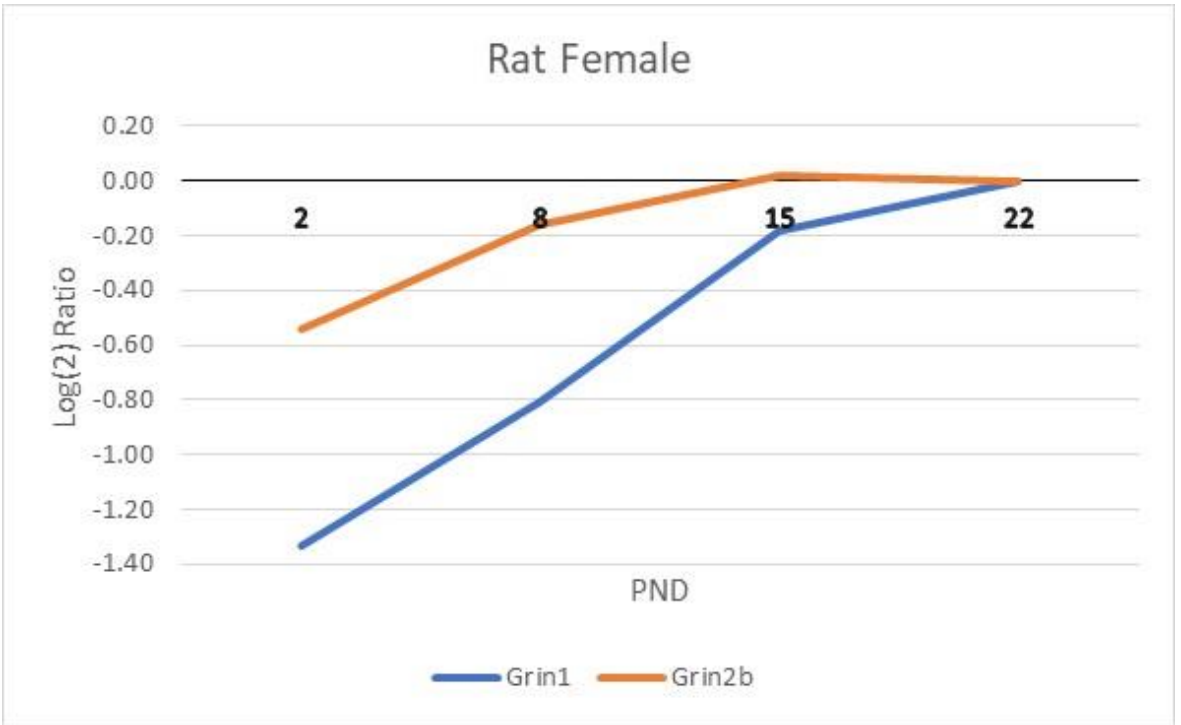
**Caption for the supplementary S.Figures 1a-2c:** The top left quadrants in **S.Fig. 1a-2c** show the mouse protein PND trendlines constructed from the *S.Table 1* data in **[1]** for the proteins in the corresponding figures *7a-8c* in **[1]** which match the rat protein gene symbols in the current work. The bottom graphs show the male and the female rat trendlines matching the PND trendlines above (current work). The reference point for the mouse P9/P21, P15/P21 logarithmic protein abundance ratios is P21, and for the rat (current work) P2/P22, P8/P22, P15/P22 logarithmic protein abundance ratios the reference point is P22. The upper right quadrants of these figures show, whenever available, the reconstructed trendlines which match rat protein gene symbols in the current work for the quantifiable synaptic cortex rat proteins calculated from *Supplementary Table 5*: *Statistically significant changes in synaptosomal cortical proteome during development* in **[7]**, for which the PND protein ratio reference point is P20.

S.Fig. 1a



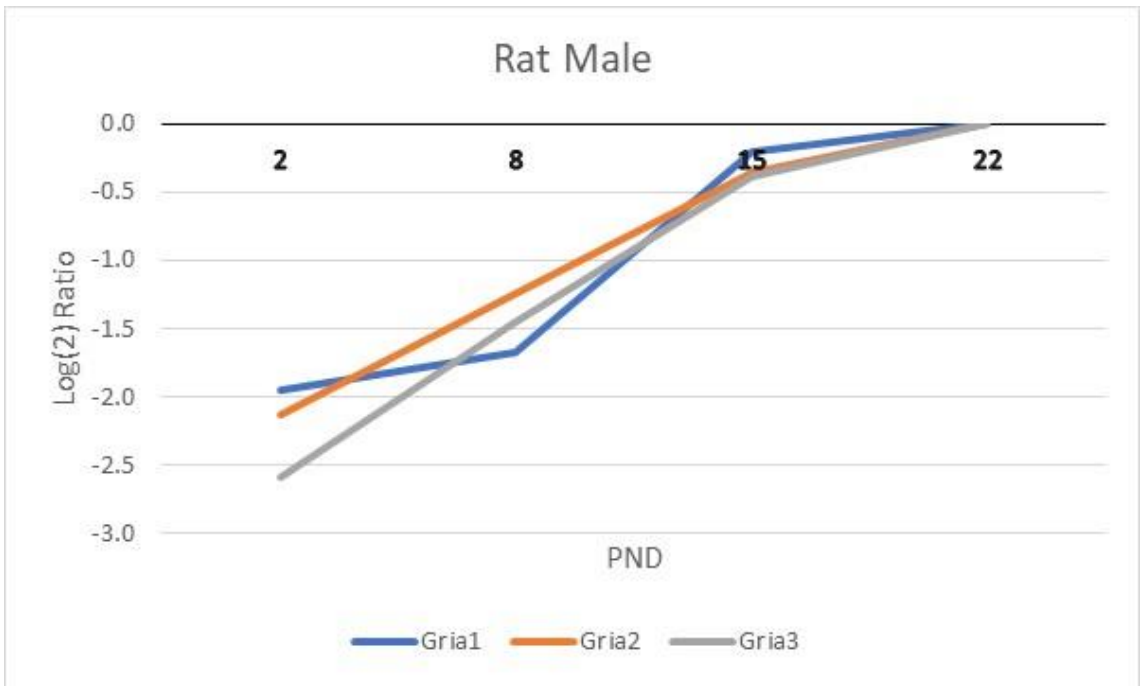

Reconstructed mouse data from [1], Fig. 7a vs the corresponding rat proteins

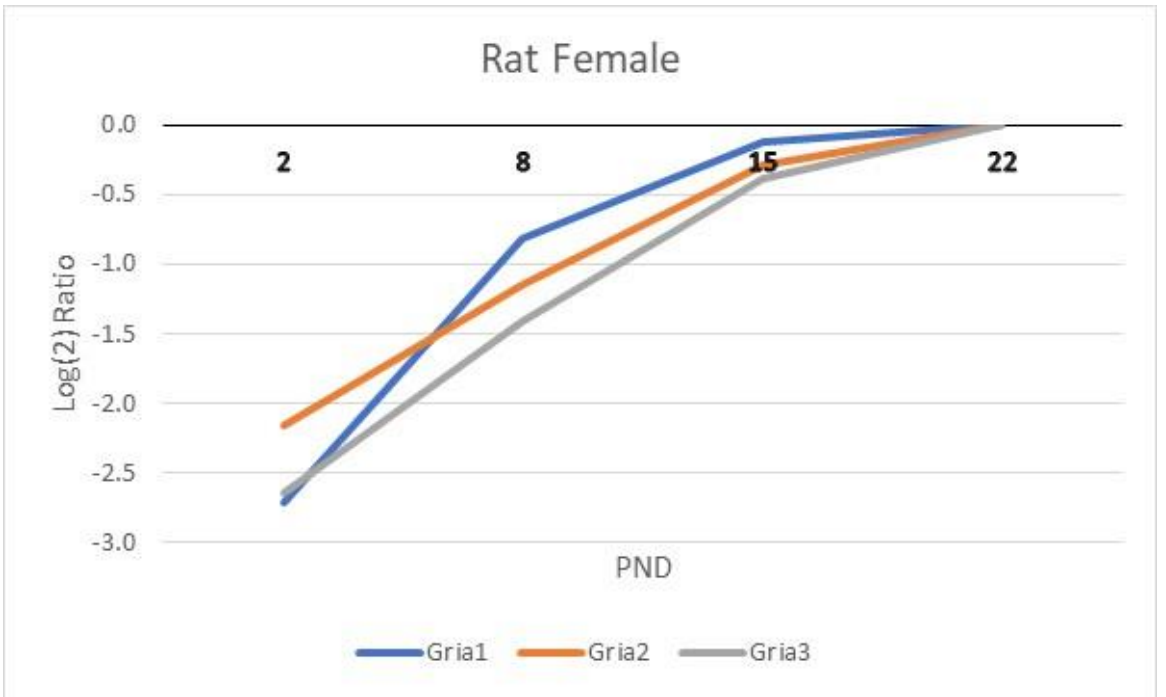


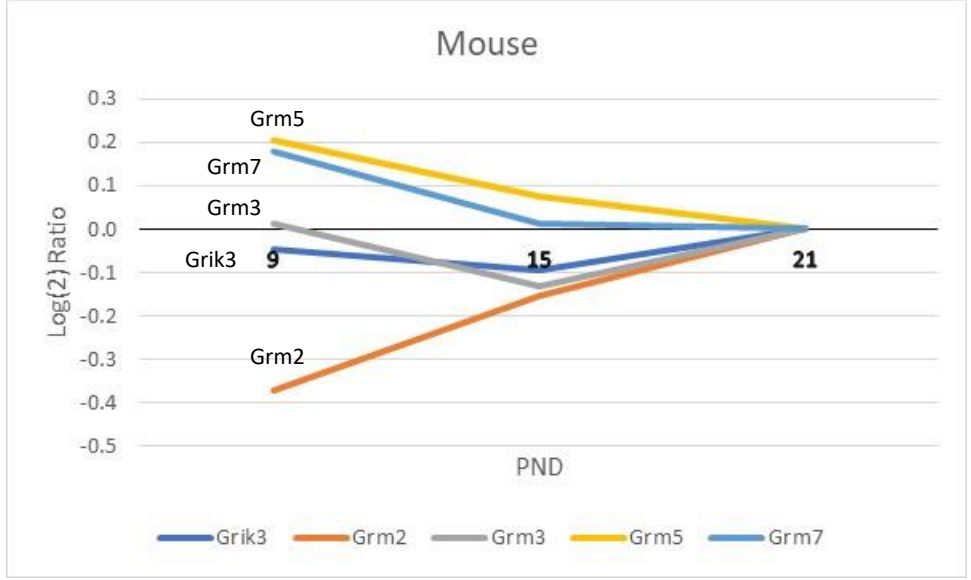



S.Fig. 1b


Reconstructed mouse data from [1], Fig. 7b vs the corresponding rat proteins

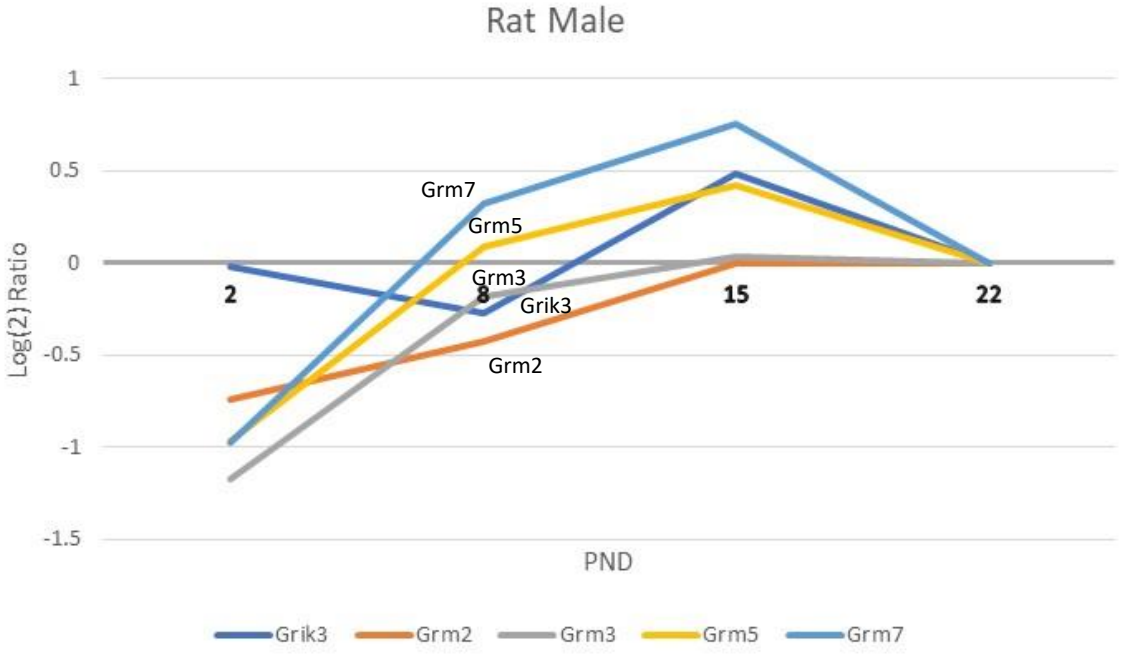


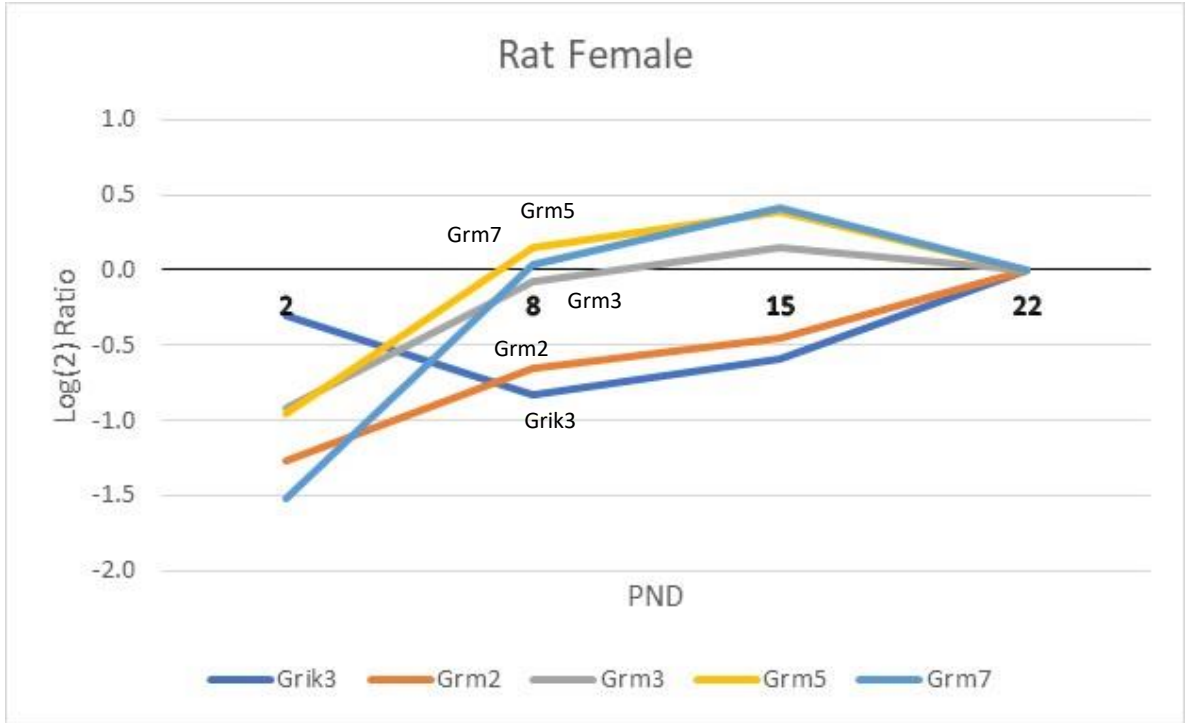





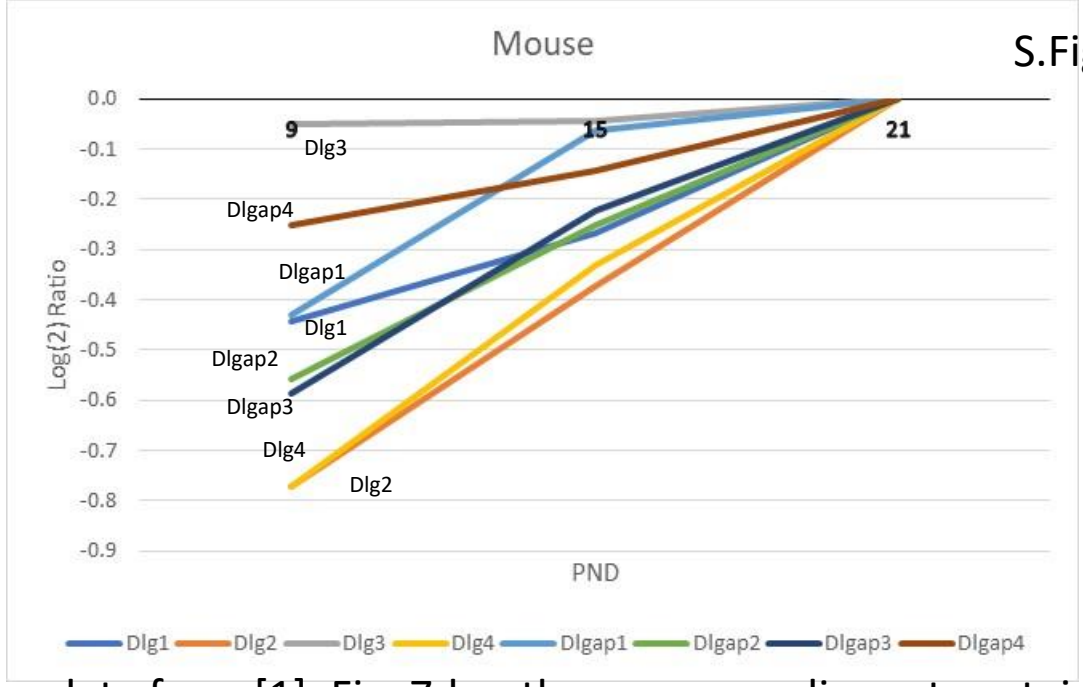

S.Fig. 1c

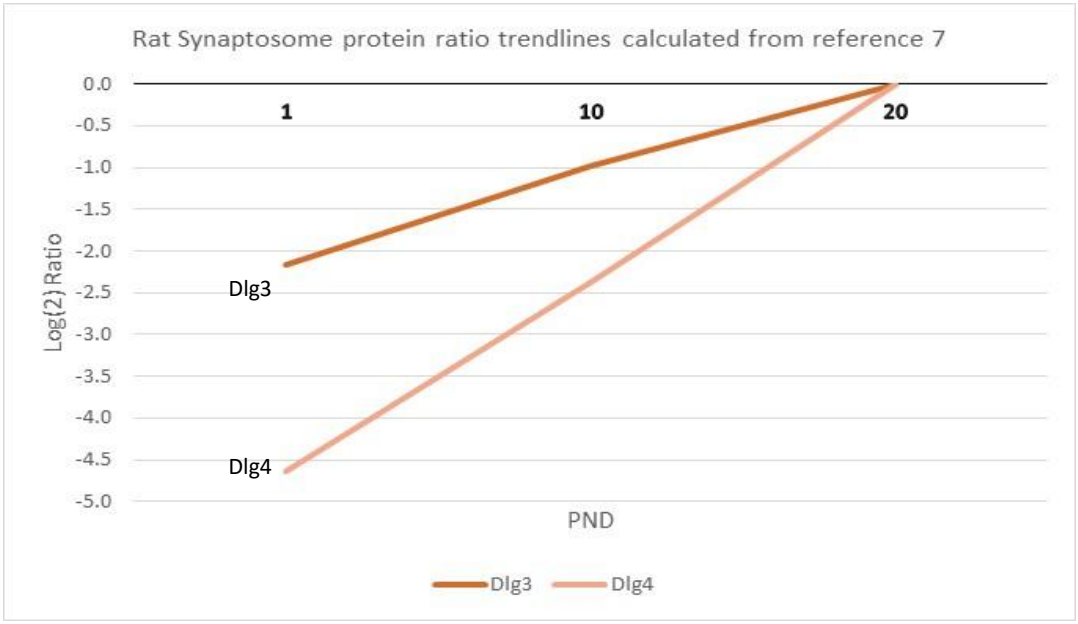
Mouse data from [1], Fig. 7c vs the corresponding rat proteins



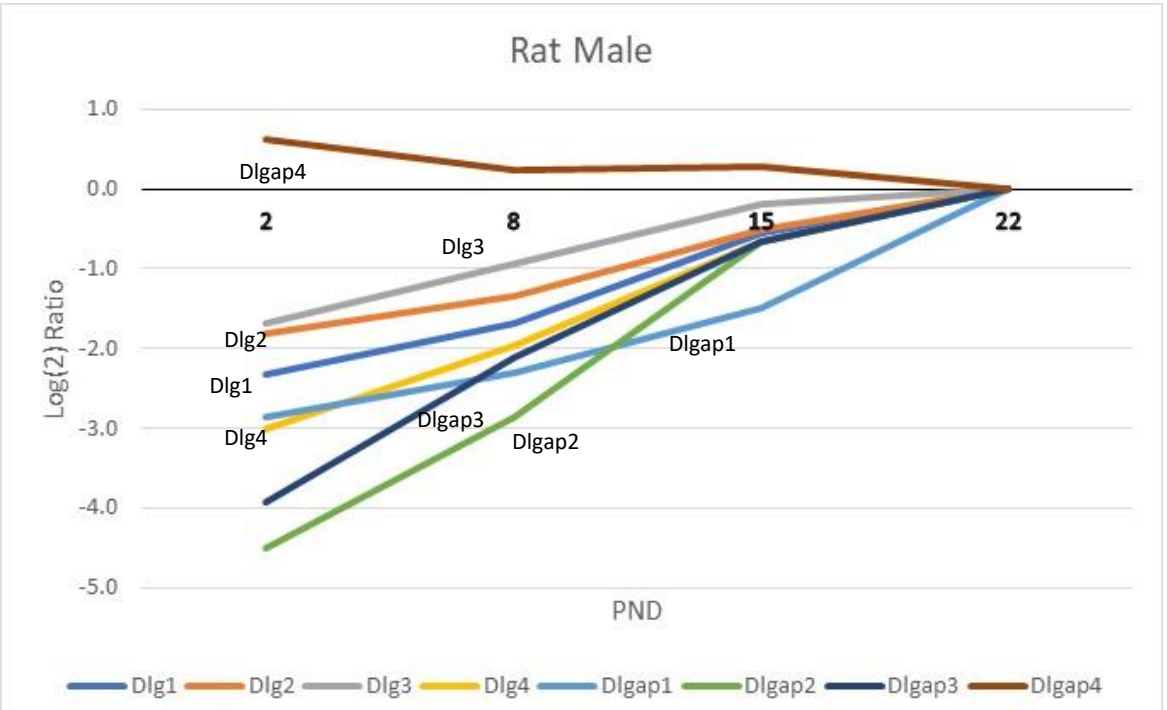



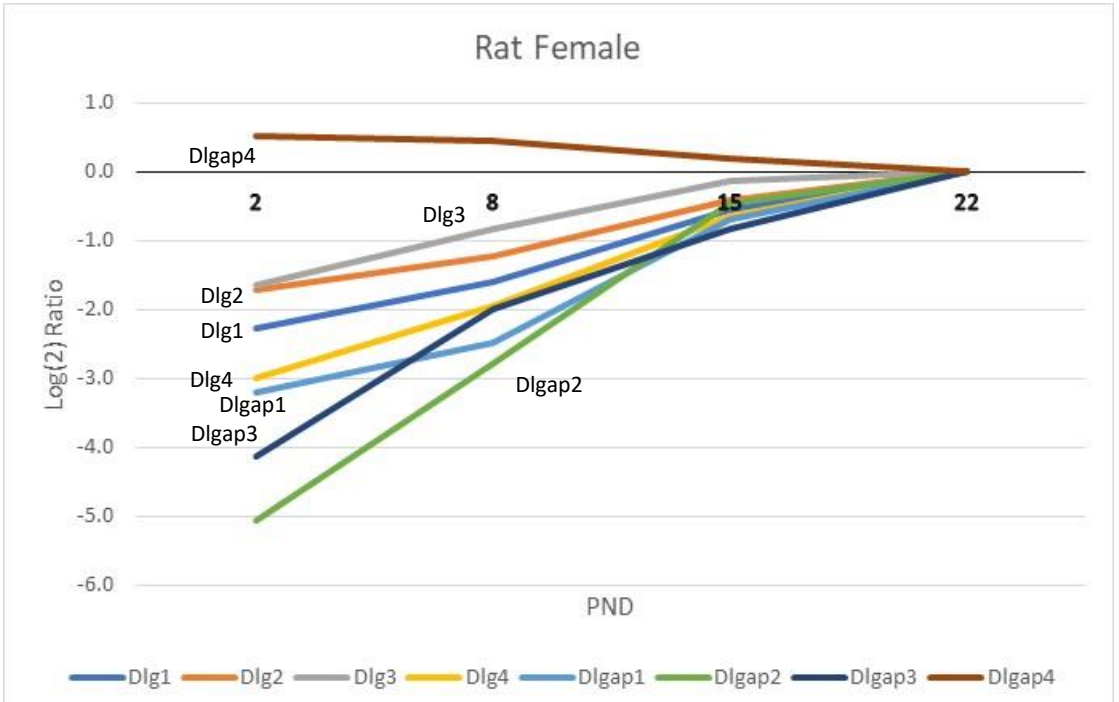
S.Fig. 1d



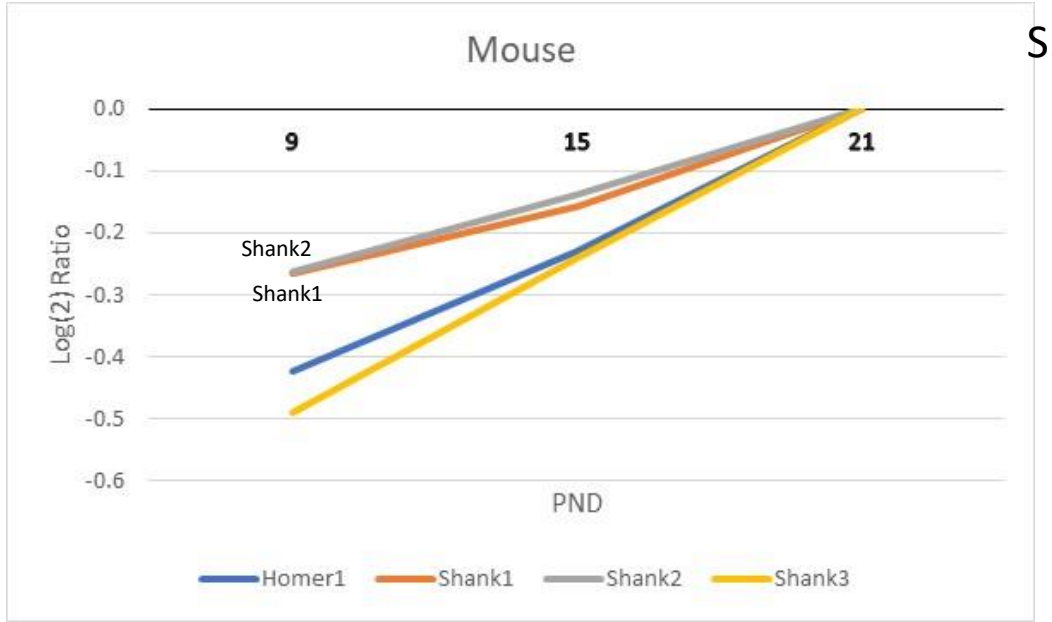




Mouse data from [1], Fig. 7d vs the corresponding rat proteins

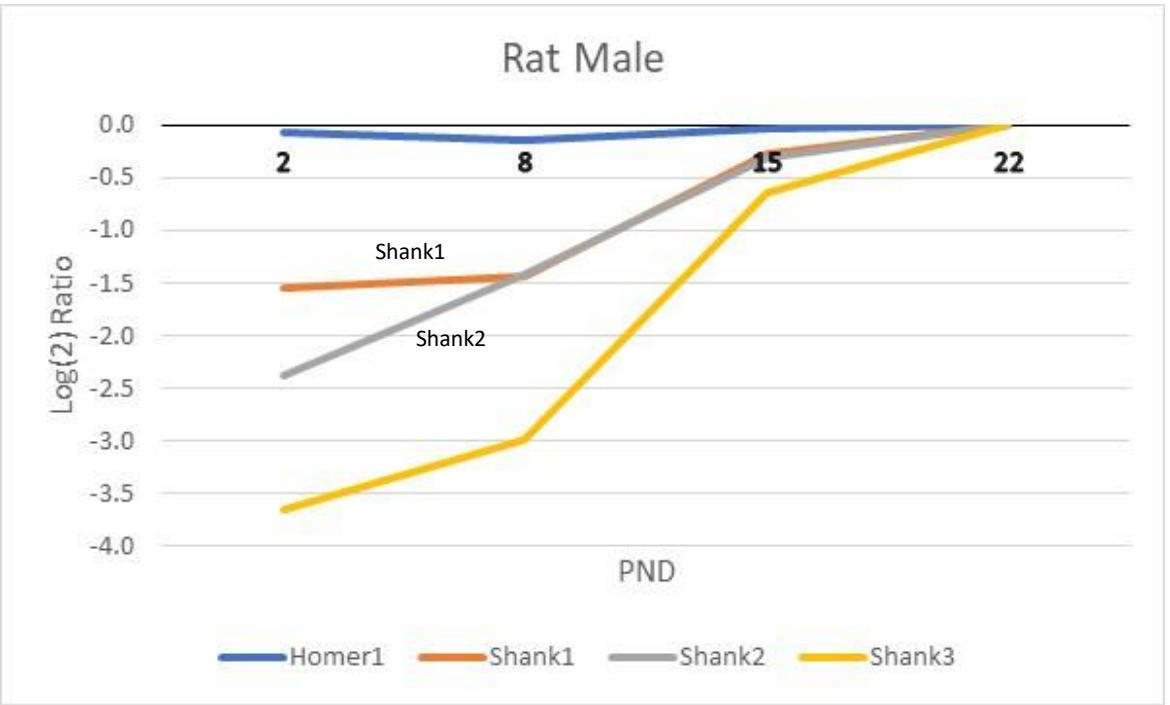


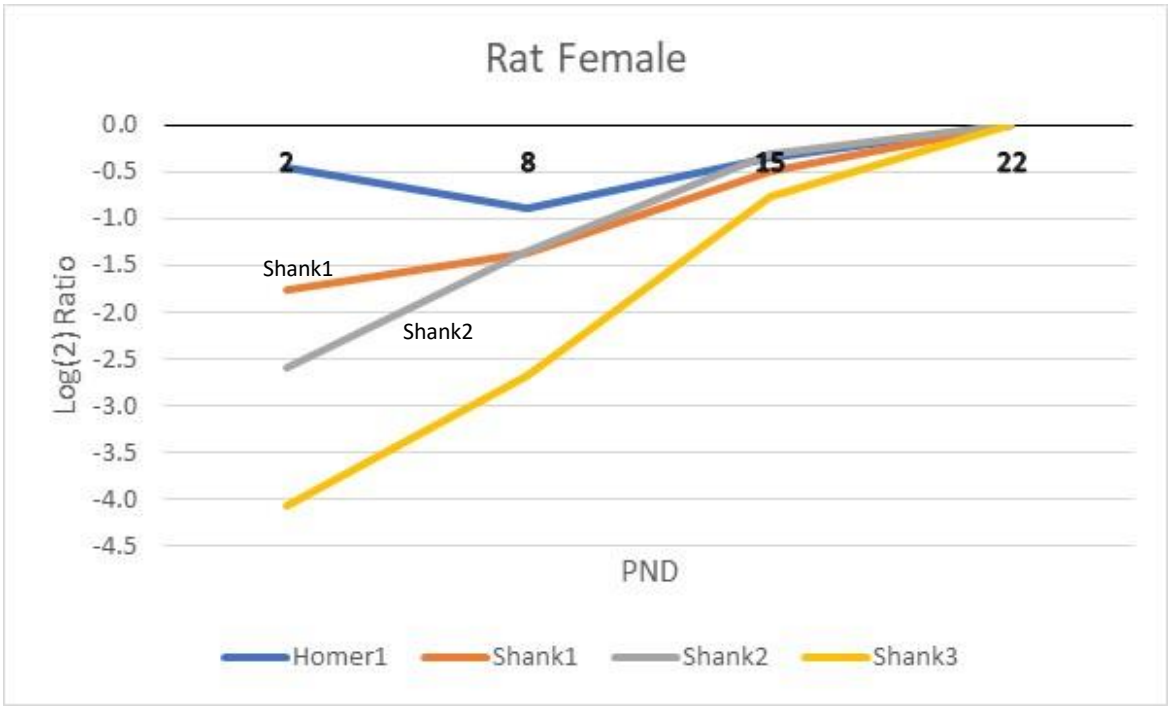



S.Fig. 1e

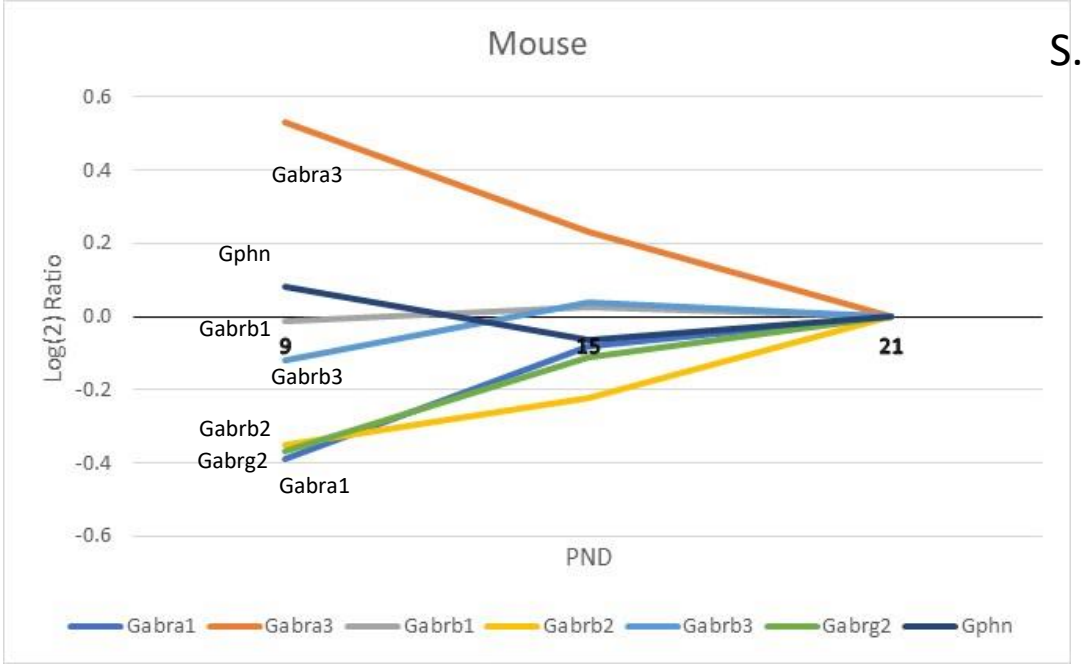



Mouse data from [1], Fig. 7e vs the corresponding rat proteins

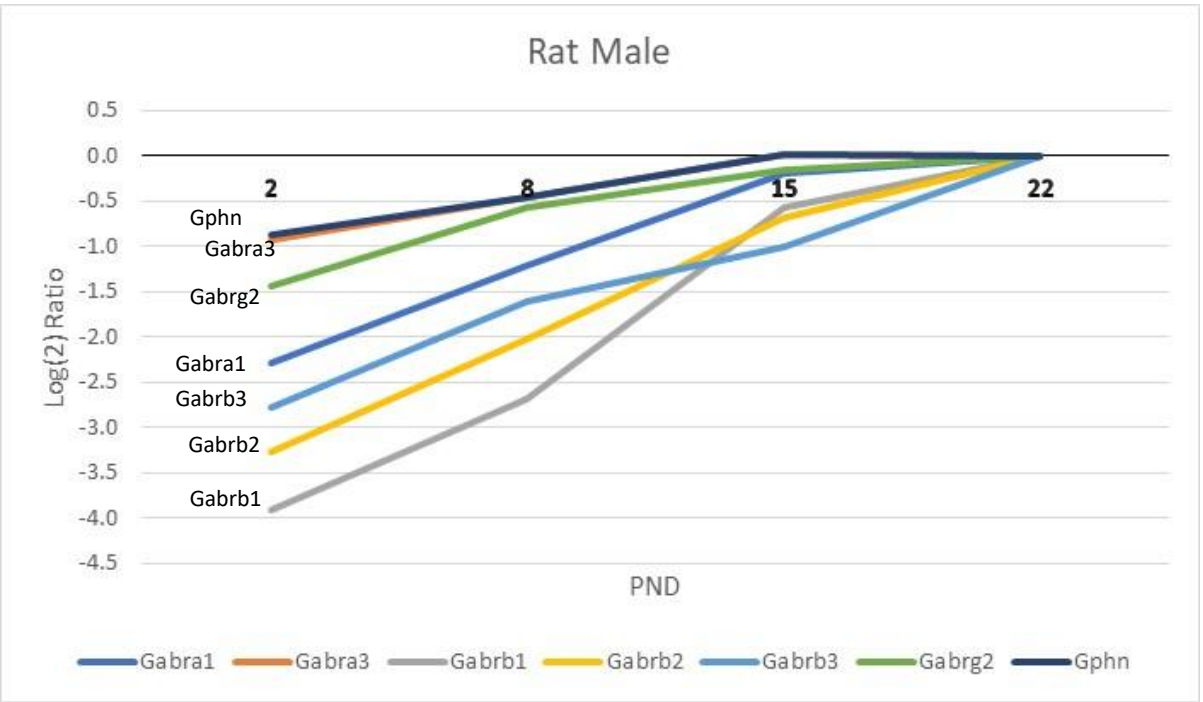


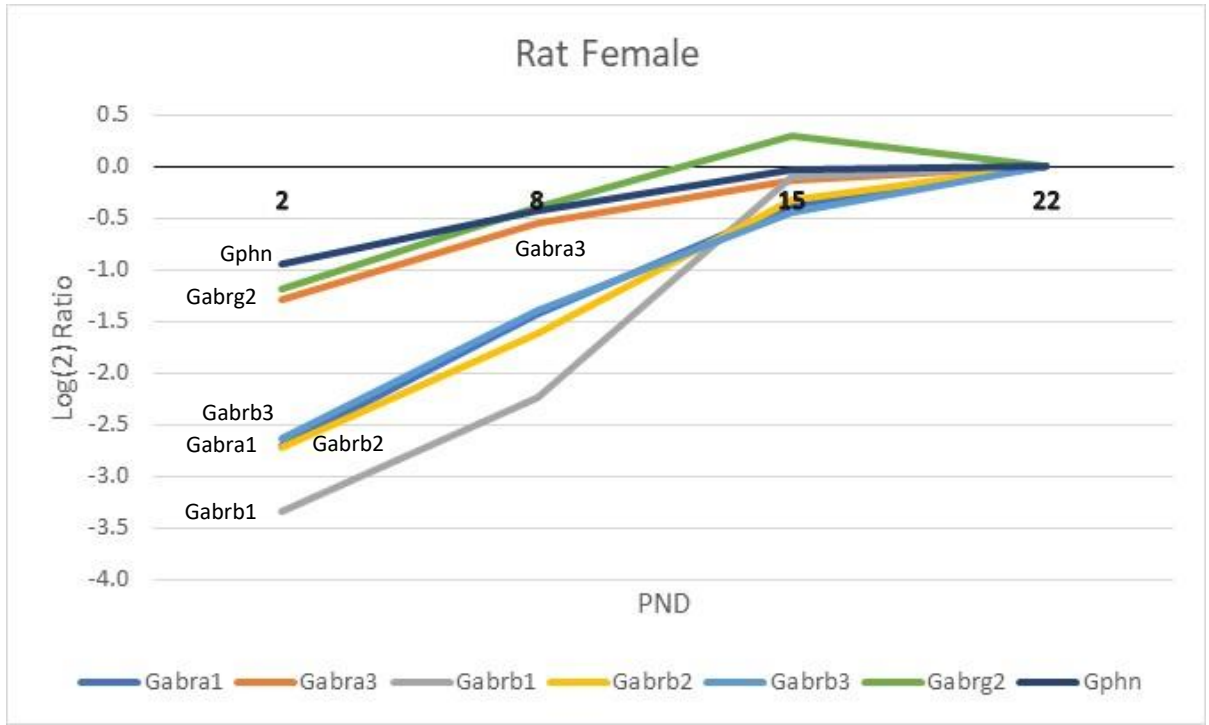



S.Fig. 1f

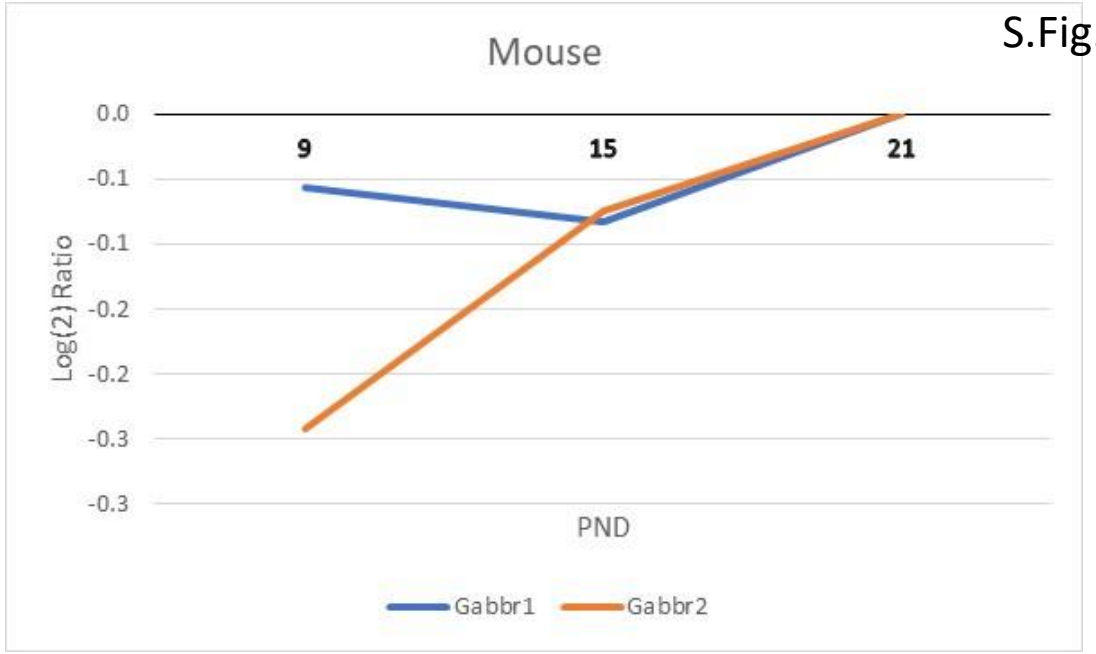



Mouse data from [1], Fig. 7f vs the corresponding rat proteins

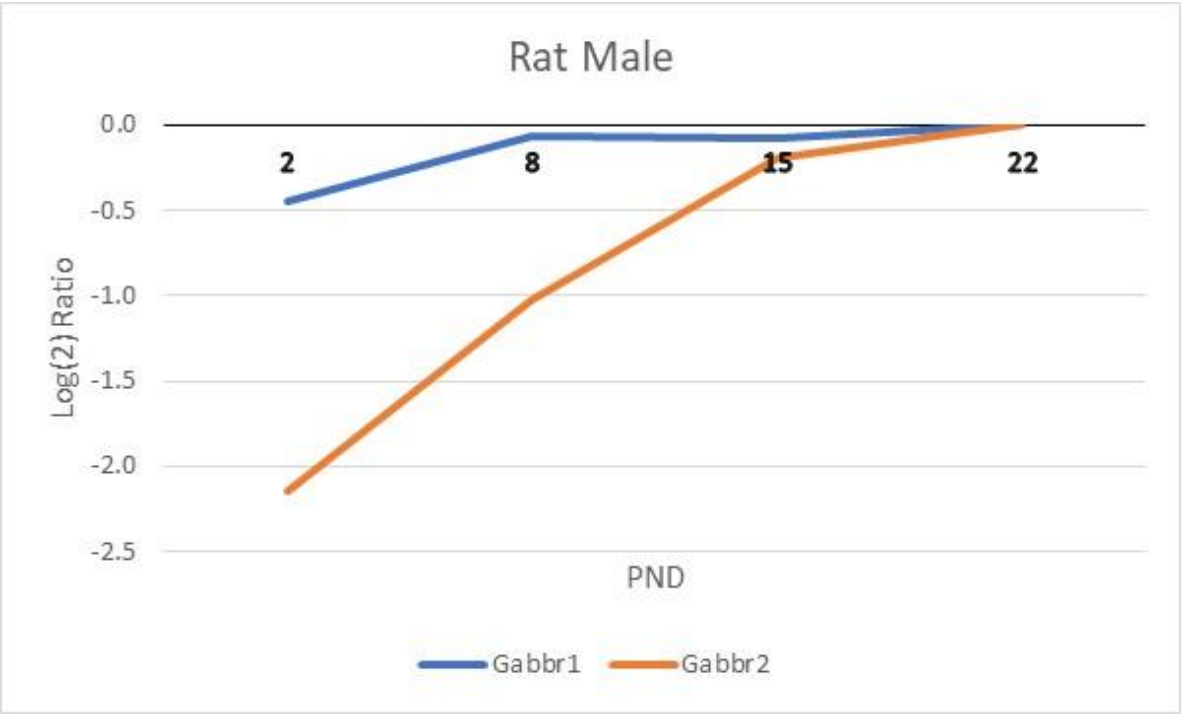


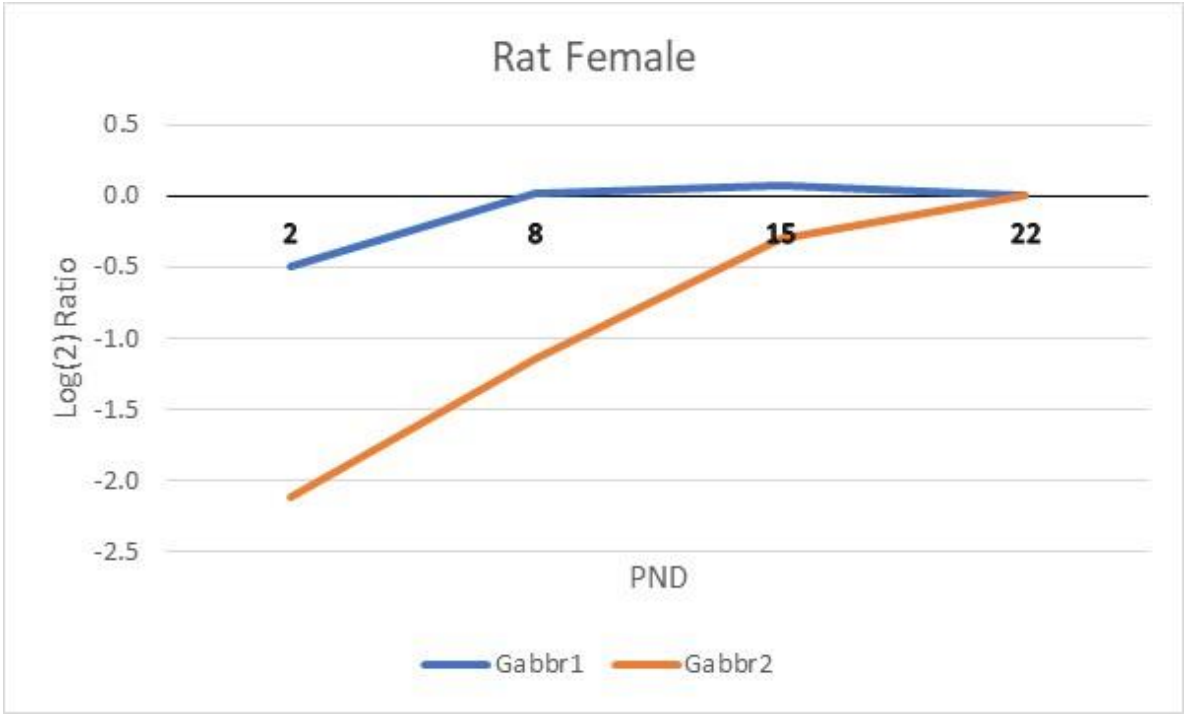



S.Fig. 1g

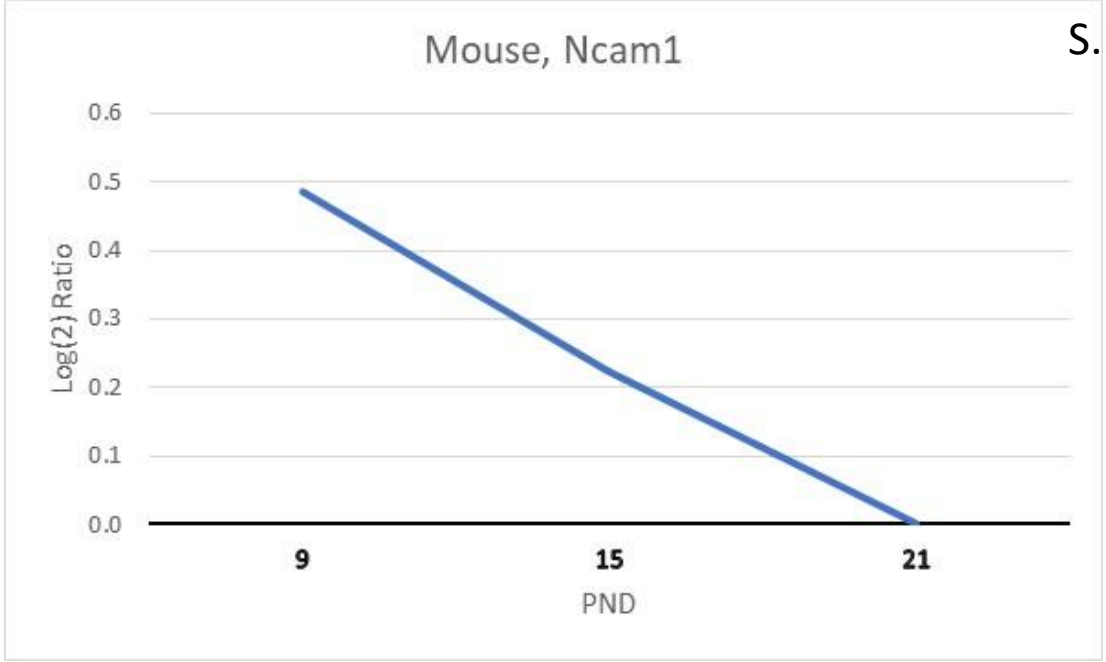


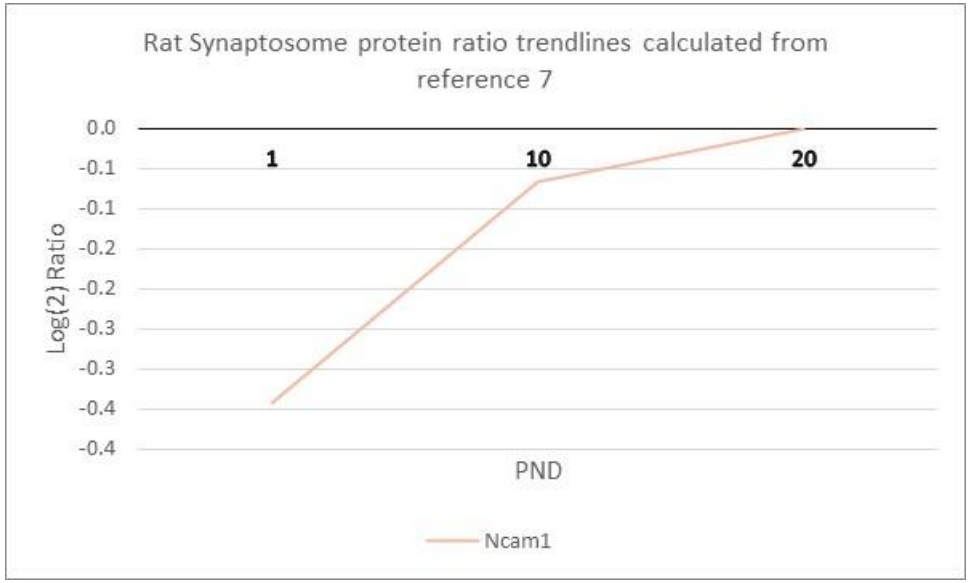

Mouse data from [1], Fig. 7g vs the corresponding rat proteins



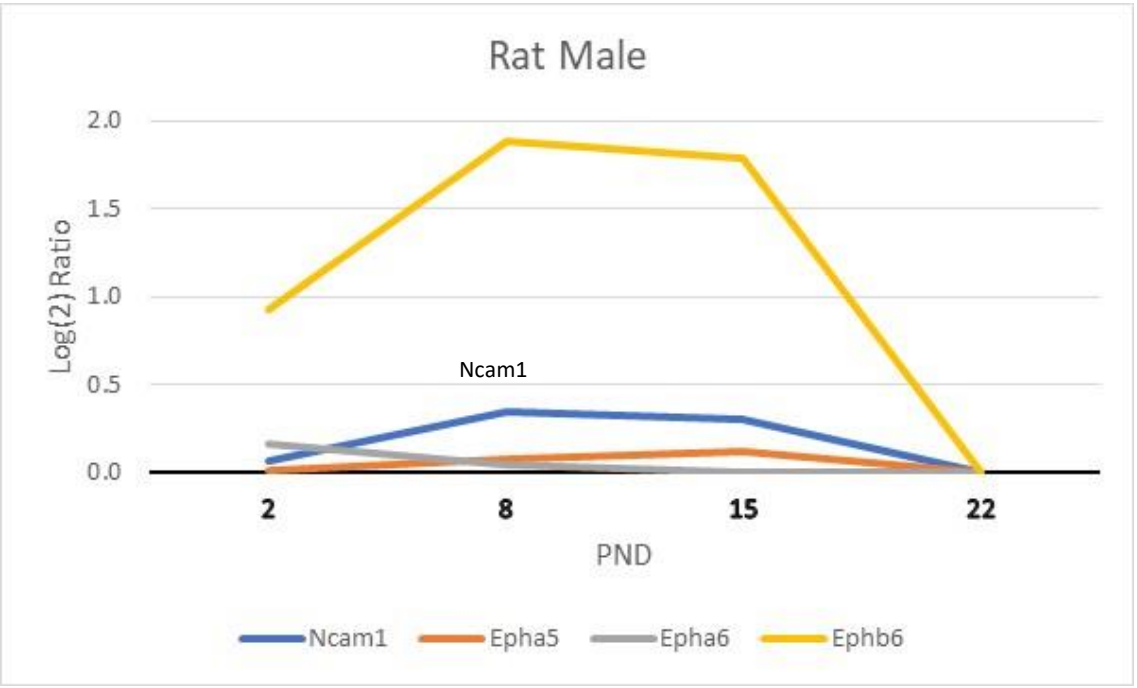



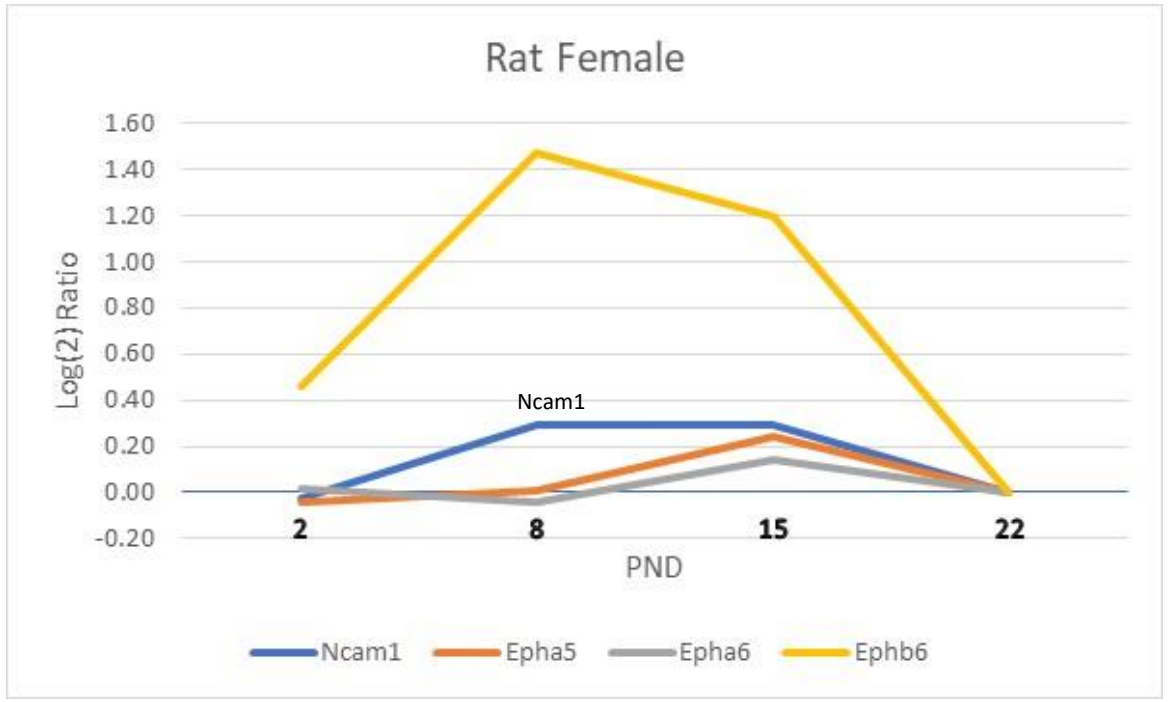
S.Fig. 2a



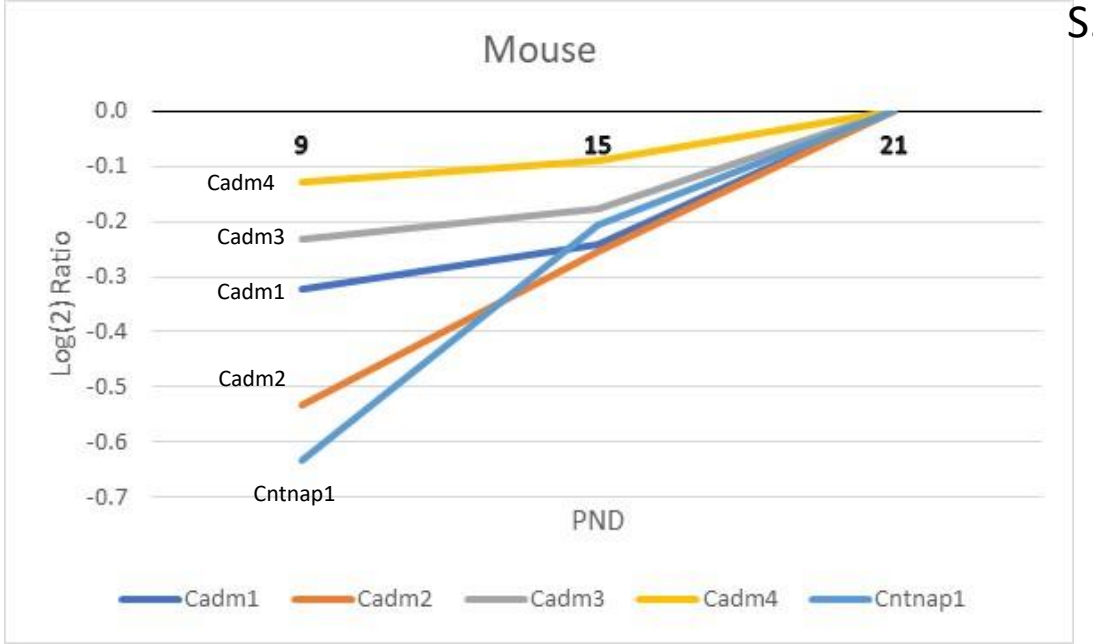



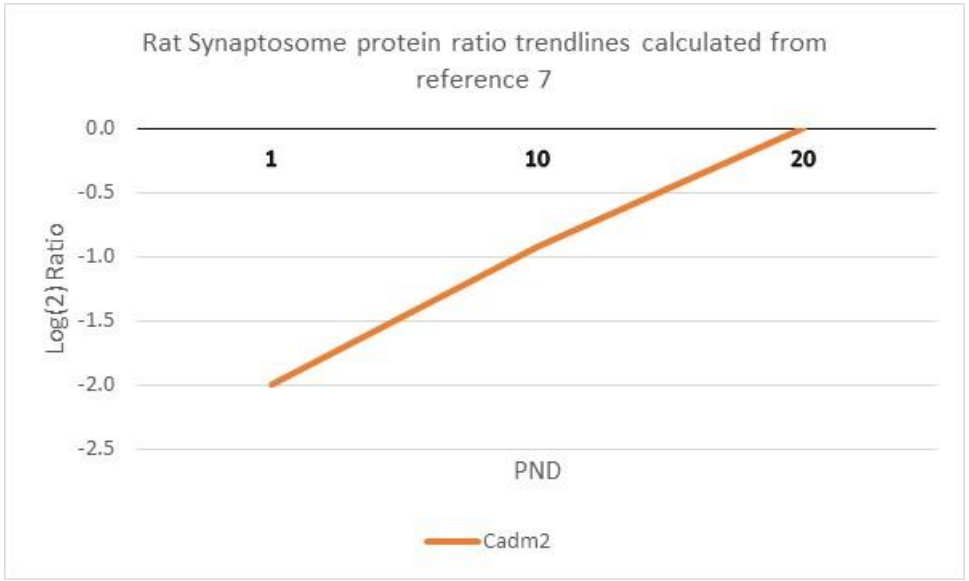

Mouse data from [1], Fig. 8a vs the corresponding rat proteins



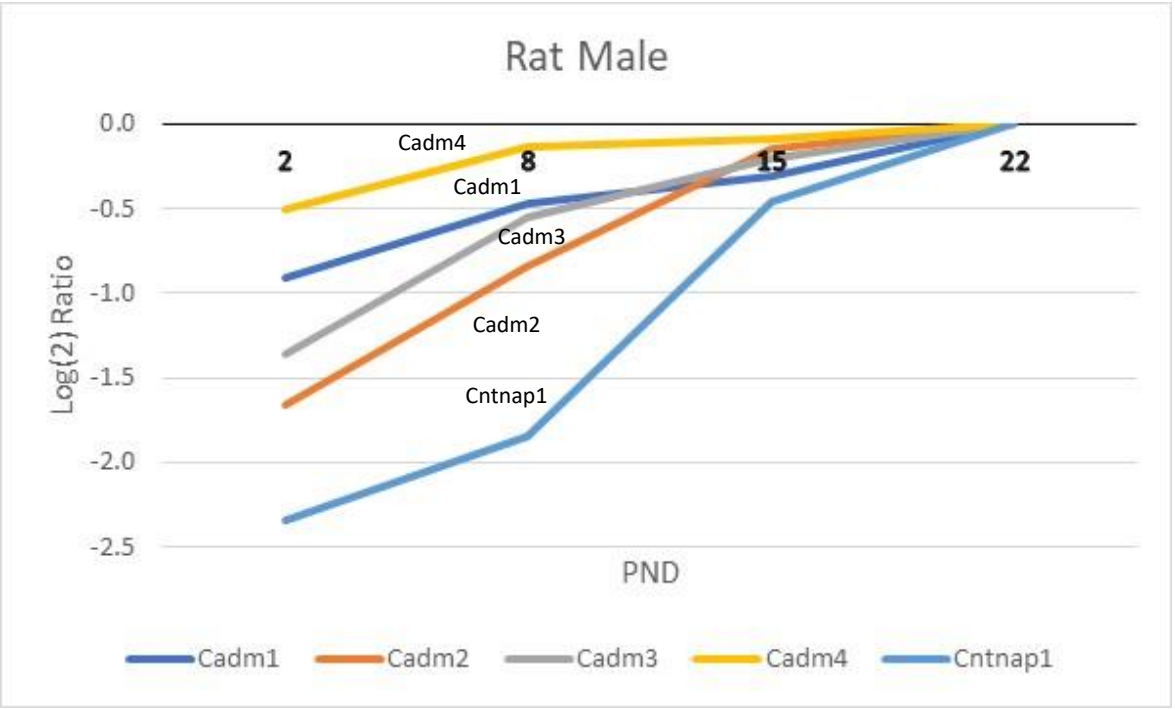
S.Fig. 2b

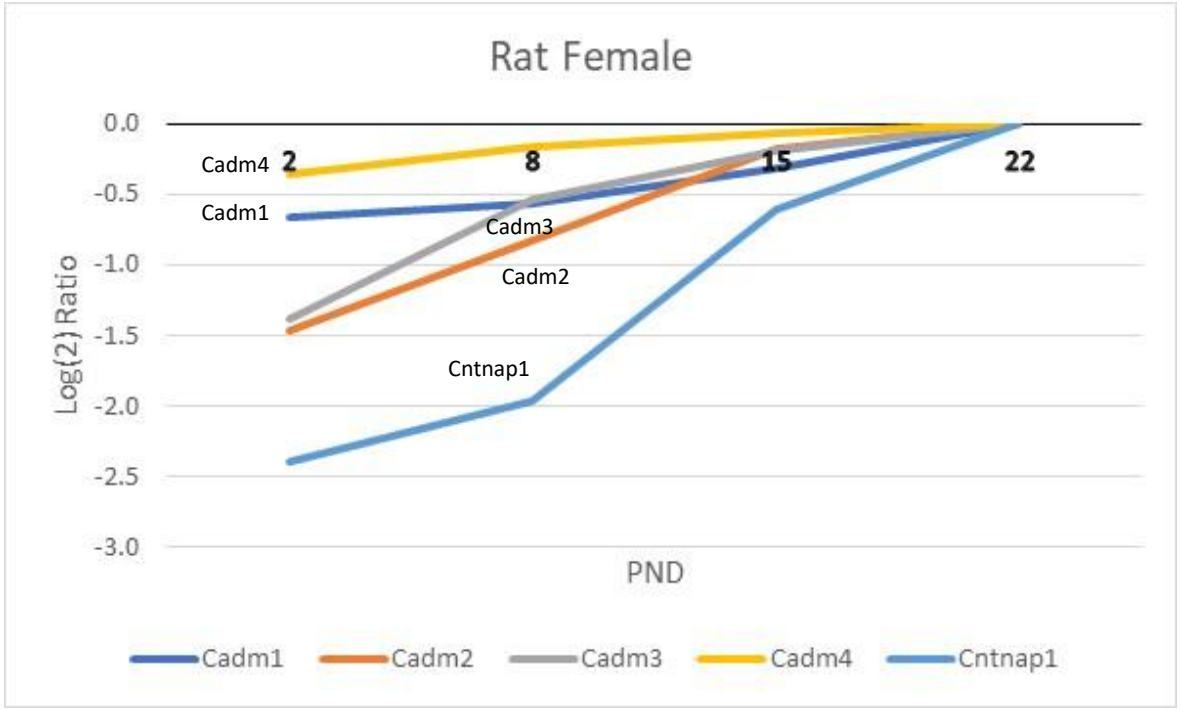


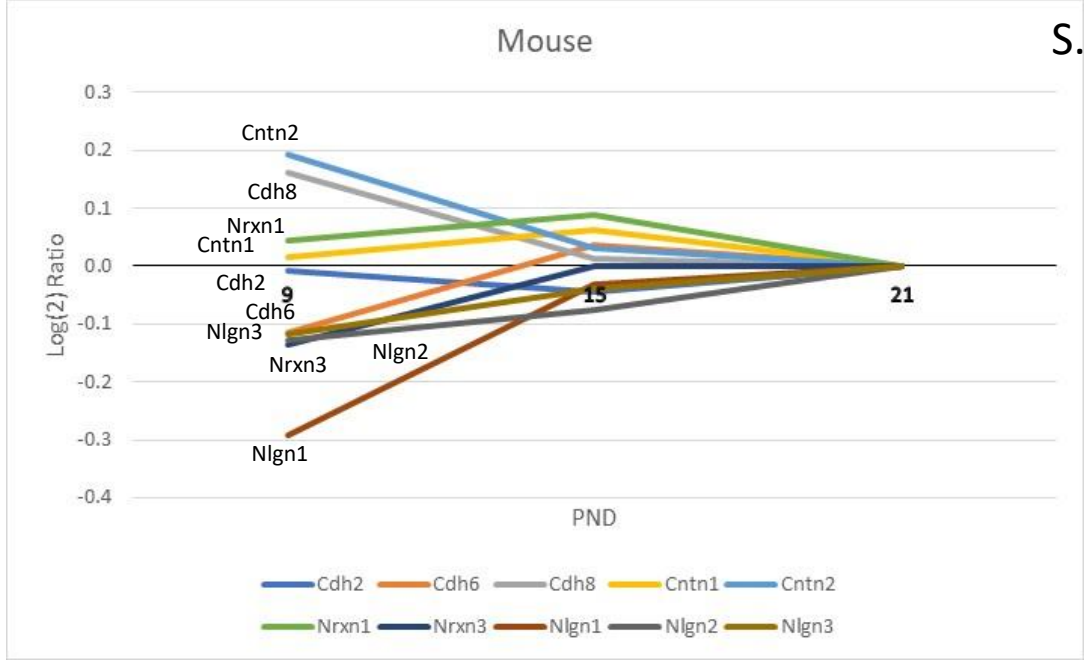

Mouse data from [1], Fig. 8b vs the corresponding rat proteins

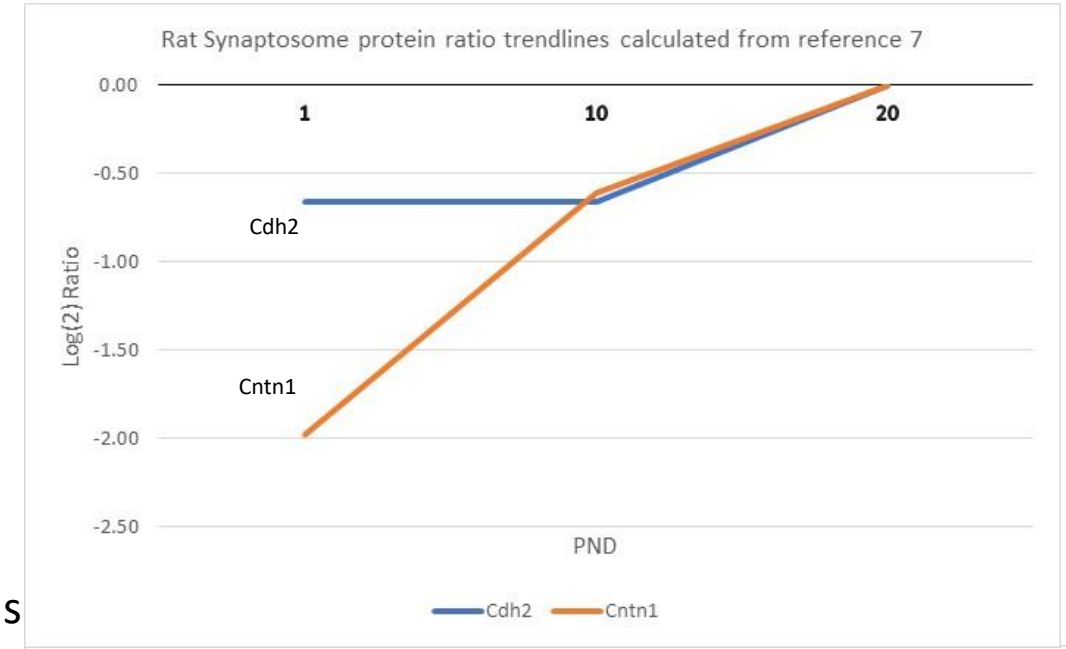
Mouse data[1], Fig. 8b in [1]



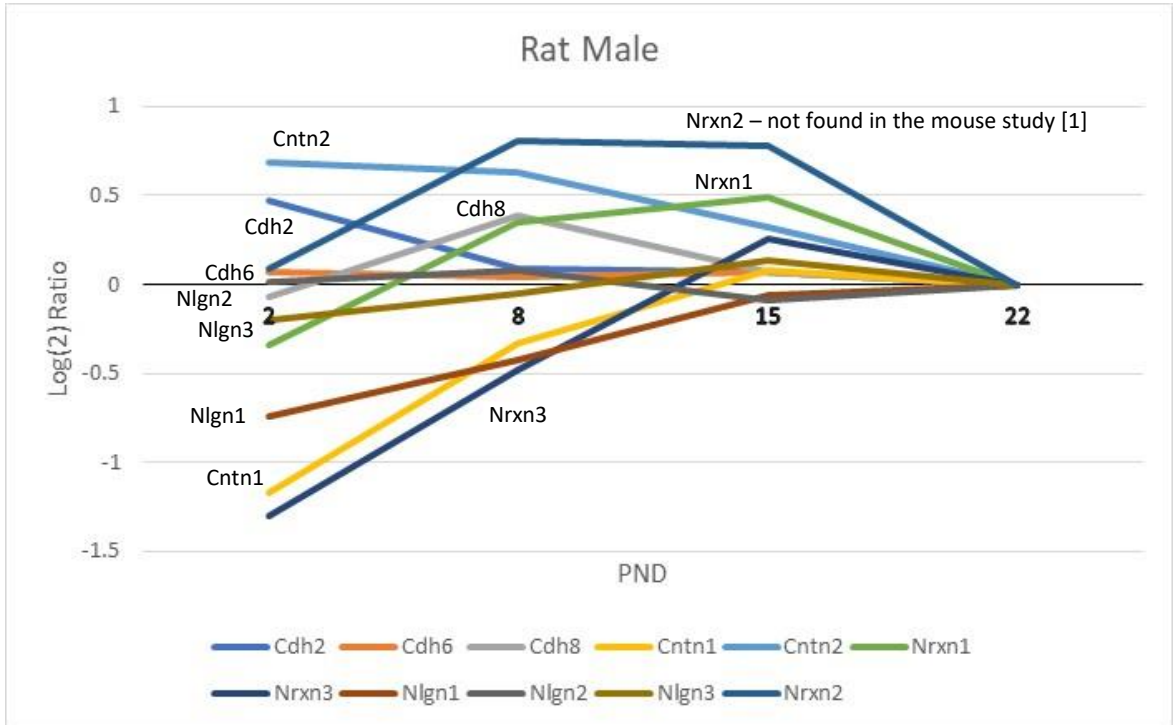



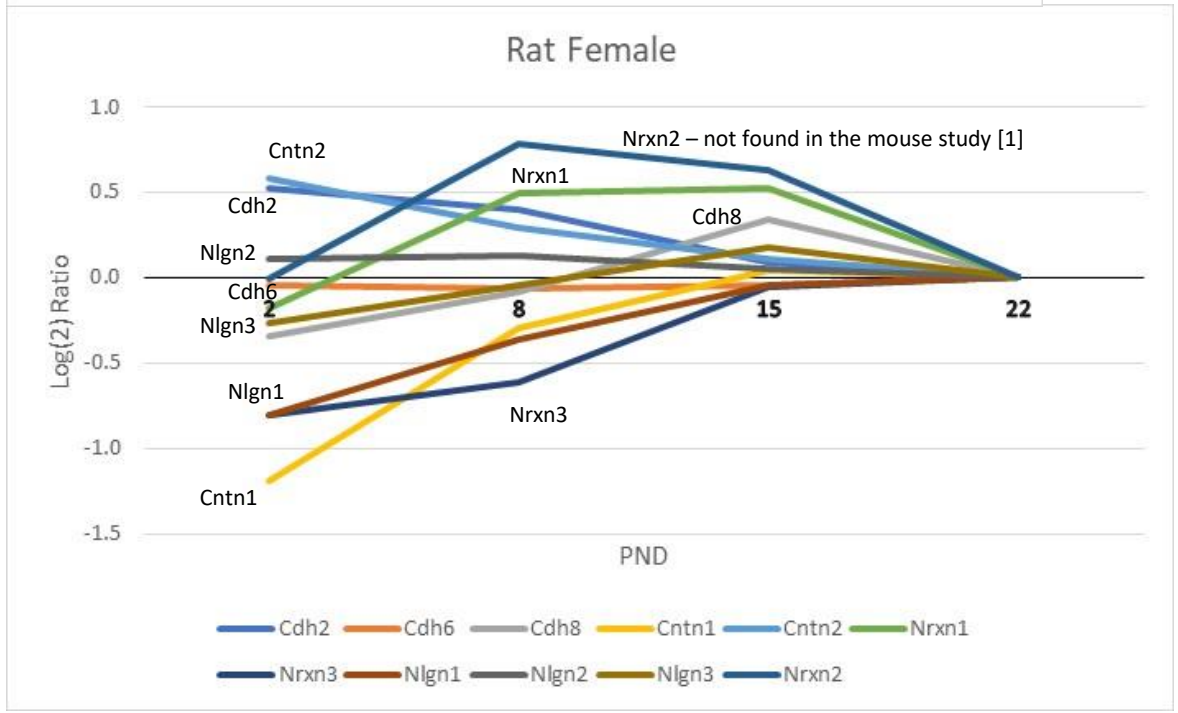
S.Fig. 2c



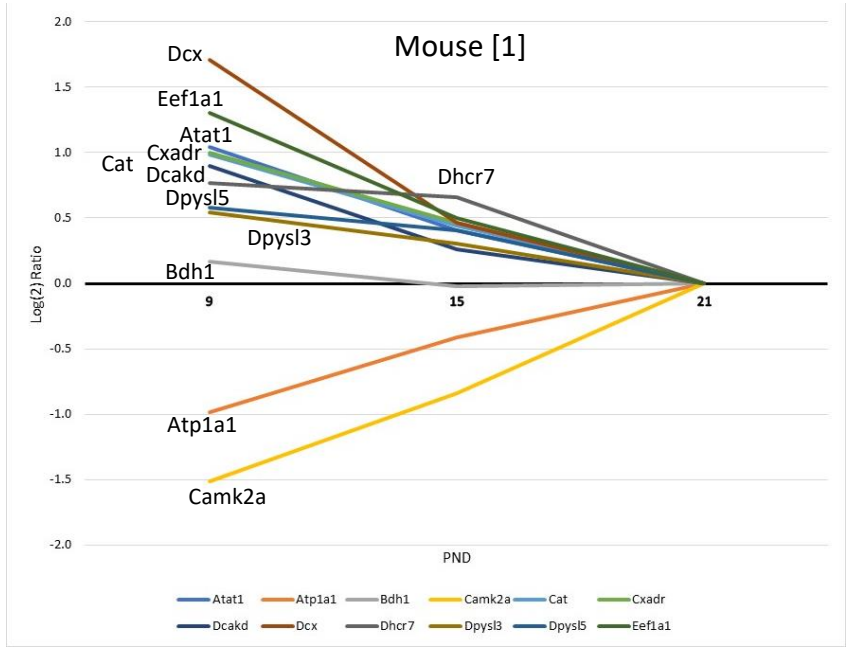

Mouse data from [1], Fig. 8c vs the corresponding rat proteins

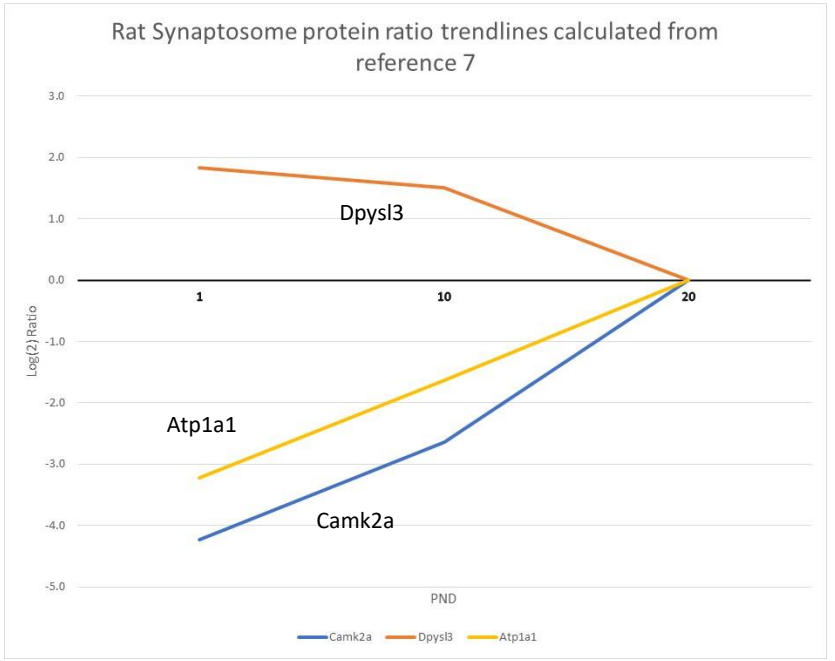


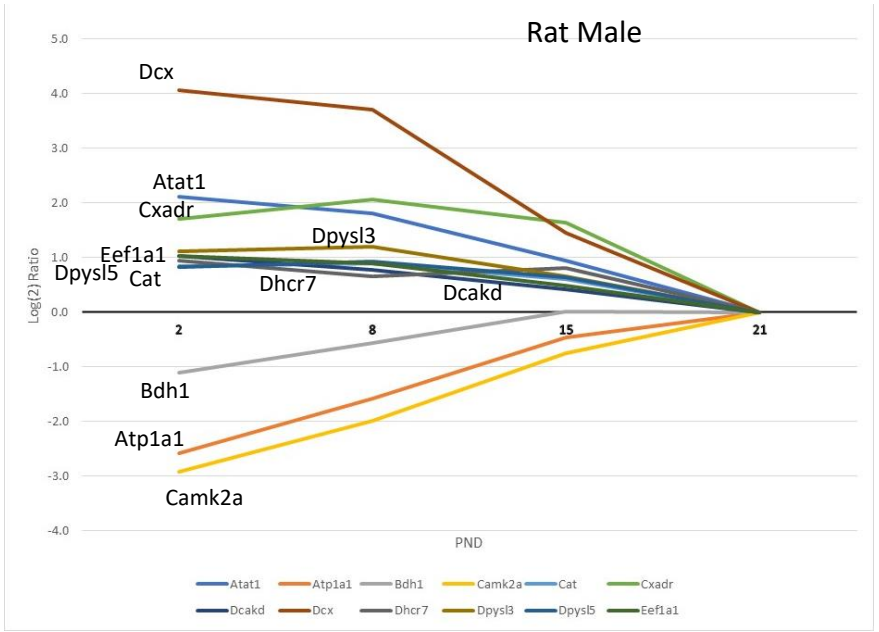



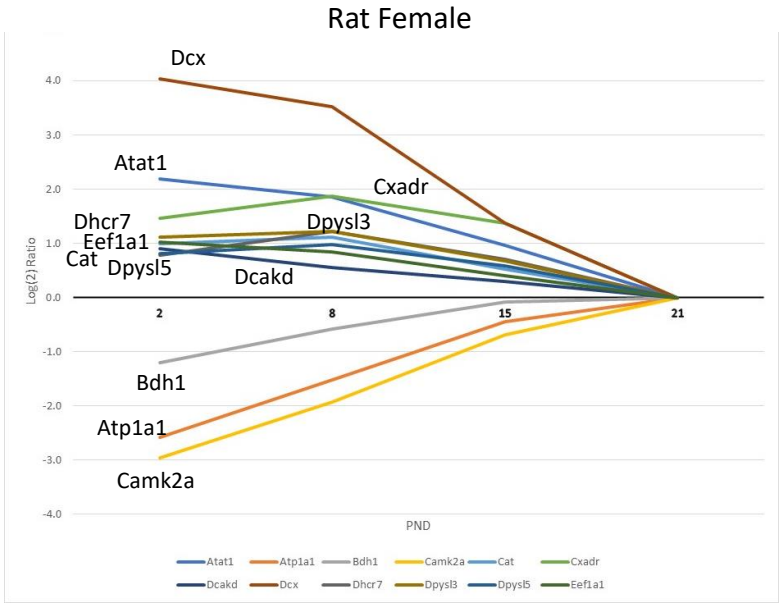
**Caption for the supplementary S.Figures 3a-c:** The top left quadrants in **S.Fig. 3a-c** show the mouse protein PND trendlines constructed from the *S.Table 1* data in **[1]** for the proteins in Table 1 representing high fold mouse PND protein ratio differences in **[1],** which match the rat protein gene symbols in the current work. The bottom graphs show the male and the female rat trendlines matching the PND trendlines above (current work). The reference point for the mouse P9/P21, P15/P21 logarithmic protein abundance ratios is P21, and for the rat (current work) P2/P22, P8/P22, P15/P22 logarithmic protein abundance ratios the reference point is P22. The upper right quadrants of these figures show, whenever available, the reconstructed trendlines which match rat protein gene symbols in the current work for the quantifiable synaptic cortex rat proteins calculated from *Supplementary Table 5*: *Statistically significant changes in synaptosomal cortical proteome during development* in **[7]**, for which the PND protein ratio reference point is P20.

S.Fig. 3a

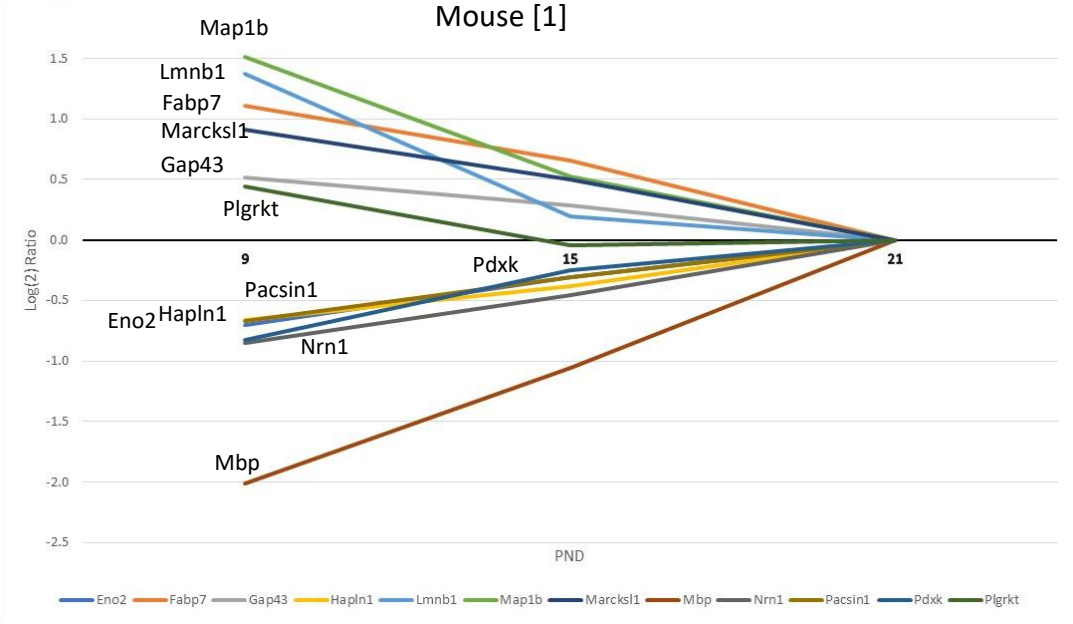

Mouse [1]
Dcx
Eef1a1
Atat1
Cat
Cxadr
Dcakd
Dpysl5
Dhcr7
Dpysl3
Bdh1
Atp1a1
Camk2a
Log(2) Ratio
PND
Atat1 Atp1a1 Bdh1 Camk2a Cat Cxadr
Dcakd Dcx Dhcr7 Dpysl3 Dpysl5 Eef1a1

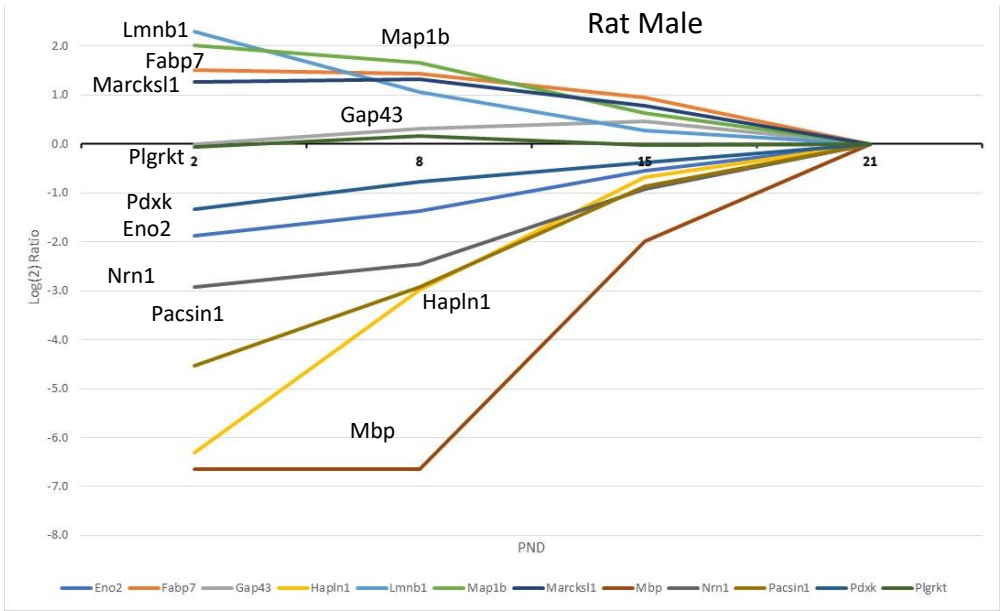

Rat Synaptosome protein ratio trendlines calculated from reference 7
Dpysl3
Atp1a1
Camk2a
Log(2) Ratio
PND
Camk2a Dpysl3 Atp1a1

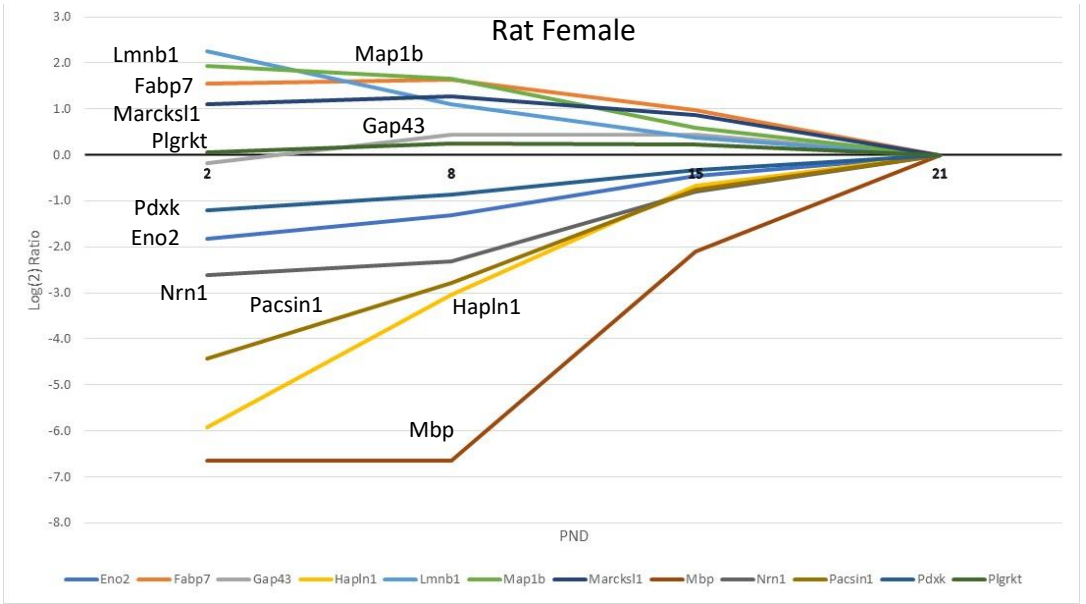

Rat Male
Dcx
Atat1
Cxadr
Dpysl3
Eef1a1
Dpysl5
Cat
Dhcr7
Dcakd
Bdh1
Atp1a1
Camk2a
Log(2) Ratio
PND
Atat1 Atp1a1 Bdh1 Camk2a Cat Cxadr
Dcakd Dcx Dhcr7 Dpysl3 Dpysl5 Eef1a1


Rat Female
Dcx
Atat1
Cxadr
Dhcr7
Dpysl3
Eef1a1
Cat
Dpysl5
Dcakd
Bdh1
Atp1a1
Camk2a
Log(2) Ratio
PND
Atat1 Atp1a1 Bdh1 Camk2a Cat Cxadr
Dcakd Dcx Dhcr7 Dpysl3 Dpysl5 Eef1a1

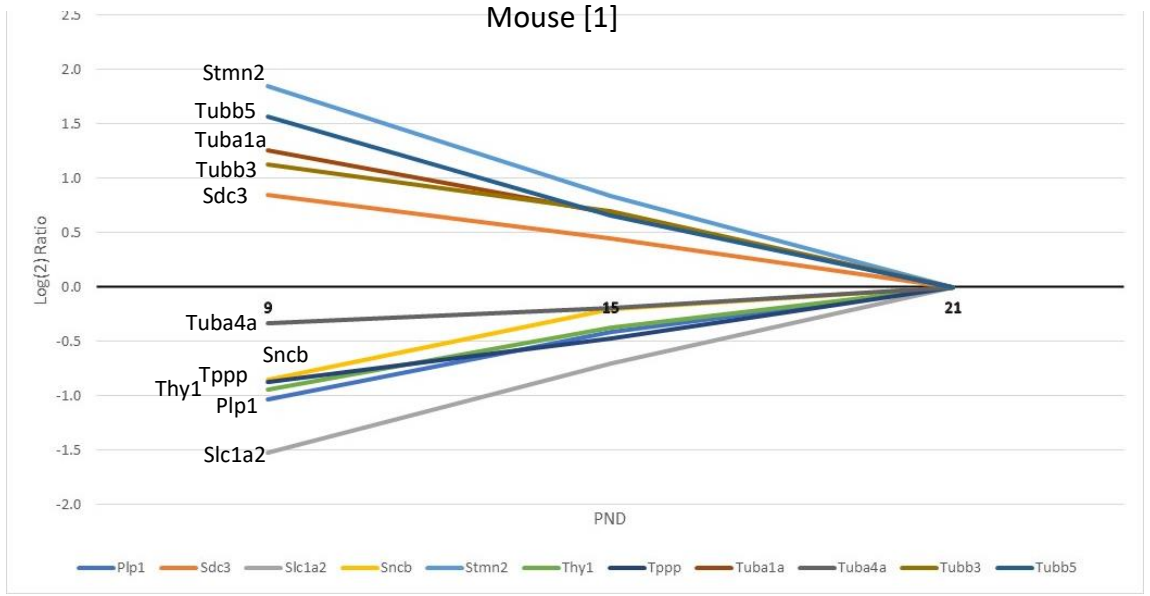
# S.Fig. 3b

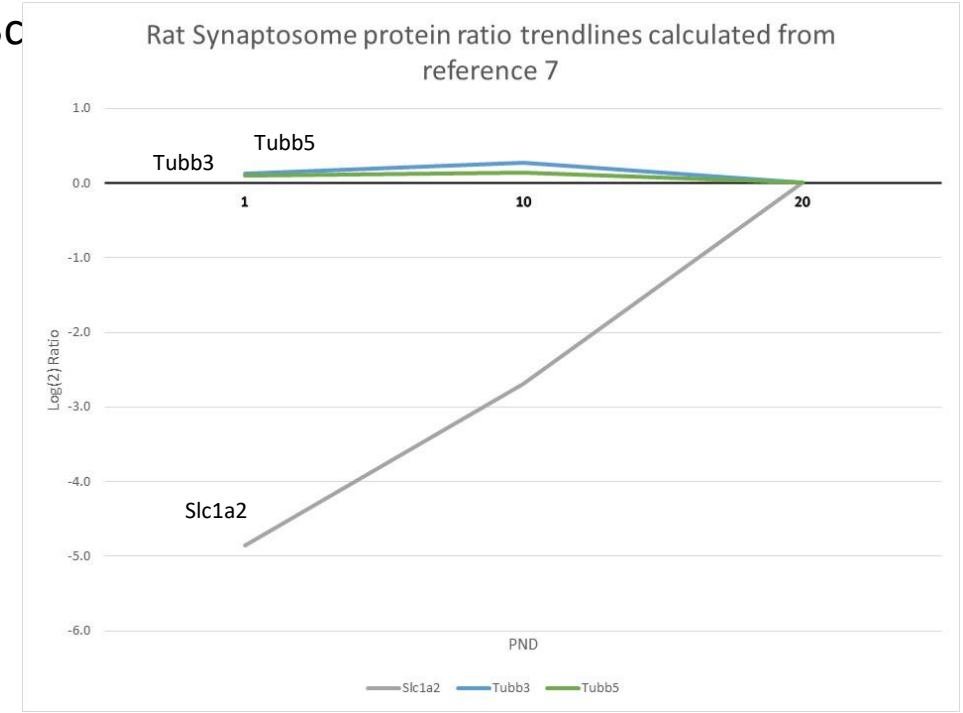

Mouse [1]
Map1b
Lmnb1
Fabp7
Marcksl1
Gap43
Plgrkt
Pdxk
Pacsin1
Eno2
Hapln1
Nrn1
Mbp
Log(2) Ratio
PND
Eno2 Fabp7 Gap43 Hapln1 Lmnb1 Map1b Marcksl1 Mbp Nrn1 Pacsin1 Pdxk Plgrkt

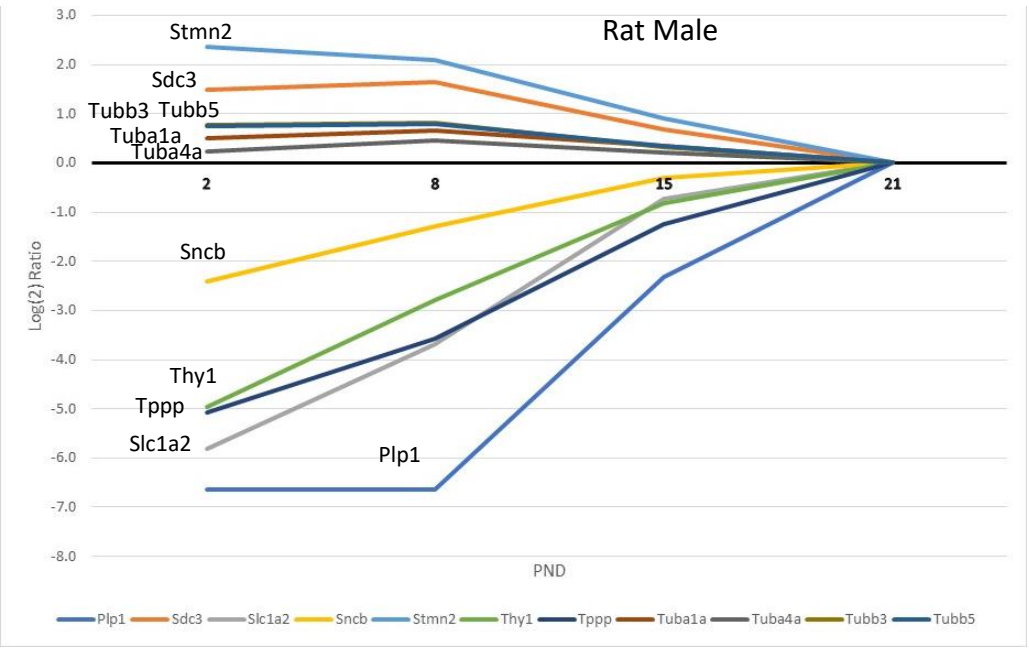

Rat Male
Lmnb1
Map1b
Fabp7
Marcksl1
Gap43
Plgrkt
Pdxk
Eno2
Nrn1
Pacsin1
Hapln1
Mbp
Log(2) Ratio
PND
Eno2 Fabp7 Gap43 Hapln1 Lmnb1 Map1b Marcksl1 Mbp Nrn1 Pacsin1 Pdxk Plgrkt

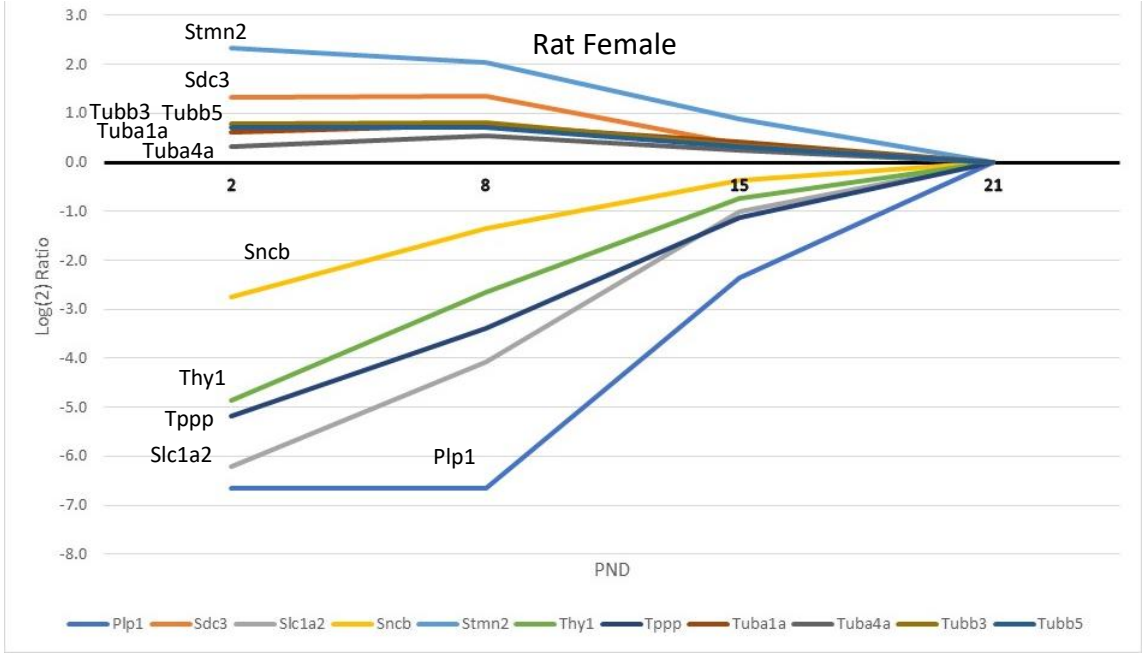

Rat Female
Lmnb1
Map1b
Fabp7
Marcksl1
Plgrkt
Gap43
Pdxk
Eno2
Nrn1
Pacsin1
Hapln1
Mbp
Log(2) Ratio
PND
Eno2 Fabp7 Gap43 Hapln1 Lmnb1 Map1b Marcksl1 Mbp Nrn1 Pacsin1 Pdxk Plgrkt

# S.Fig. 3c


Mouse [1]
Stmn2
Tubb5
Tuba1a
Tubb3
Sdc3
Tuba4a
Sncb
Tppp
Thy1
Plp1
Slc1a2
Log(2) Ratio
PND
Plp1 Sdc3 Slc1a2 Sncb Stmn2 Thy1 Tppp Tuba1a Tuba4a Tubb3 Tubb5


Rat Synaptosome protein ratio trendlines calculated from reference 7
Tubb3
Tubb5
Slc1a2
Log(2) Ratio
PND
Slc1a2 Tubb3 Tubb5


Rat Male
Stmn2
Sdc3
Tubb3 Tubb5
Tuba1a
Tuba4a
Sncb
Thy1
Tppp
Slc1a2
Plp1
Log(2) Ratio
PND
Plp1 Sdc3 Slc1a2 Sncb Stmn2 Thy1 Tppp Tuba1a Tuba4a Tubb3 Tubb5


Rat Female
Stmn2
Sdc3
Tubb3 Tubb5
Tuba1a
Tuba4a
Sncb
Thy1
Tppp
Slc1a2
Plp1
Log(2) Ratio
PND
Plp1 Sdc3 Slc1a2 Sncb Stmn2 Thy1 Tppp Tuba1a Tuba4a Tubb3 Tubb5

S.Fig. 4a

Box and whisker plot showing the log2 Pn/P22 (male and female rat rostral cortex) and log2 Px/P21 (mouse cortex [1]) ribosomal protein abundance ratio data point distributions for the PND points: n= 2, 8, 15, 22 (rat), and x= 9, 15, 21 (mouse)

S.Fig. 4b

Box and whisker plot showing the log2 Pn/P22 (male and female rat rostral cortex) and log2 Px/P21 (mouse cortex [1]) proteasome protein abundance ratio data point distributions for the PND points: n= 2, 8, 15, 22 (rat), and x= 9, 15, 21 (mouse)

S.Fig. 4c

Box and whisker plot showing the log2 Pn/P22 (male and female rat rostral cortex) mRNA splicing and mitochondrial protein abundance ratio data point distributions for the PND points: n= 2, 8, 15, 22

S.Fig. 4d

Box and whisker plot showing the log2 Pn/P22 (male and female rat rostral cortex) DNA, RNA associated and apoptosis-related protein abundance ratio data point distributions for the PND points: n= 2, 8, 15, 22

S.Fig. 5

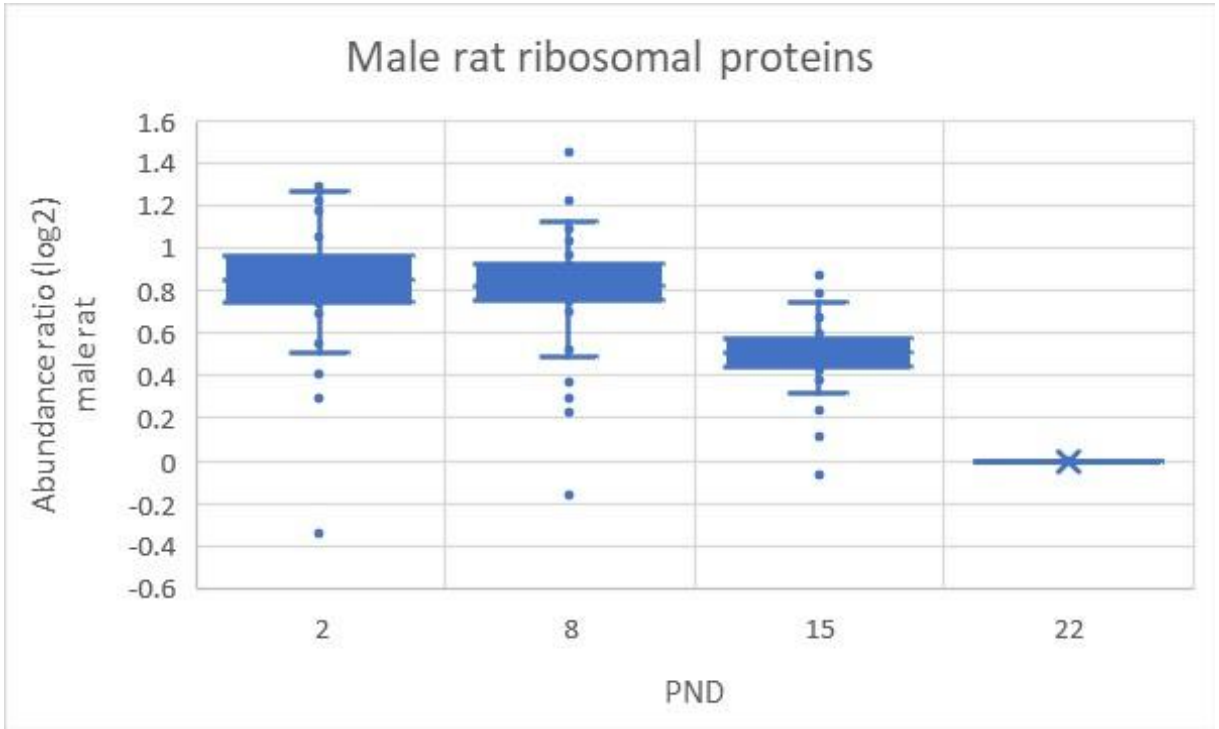
Box and whisker plot showing the log2 Pn/P22 (male and female rat rostral cortex) significantly rising and falling trend protein abundance ratio data point distributions for the PND points: n= 2, 8, 15, 22

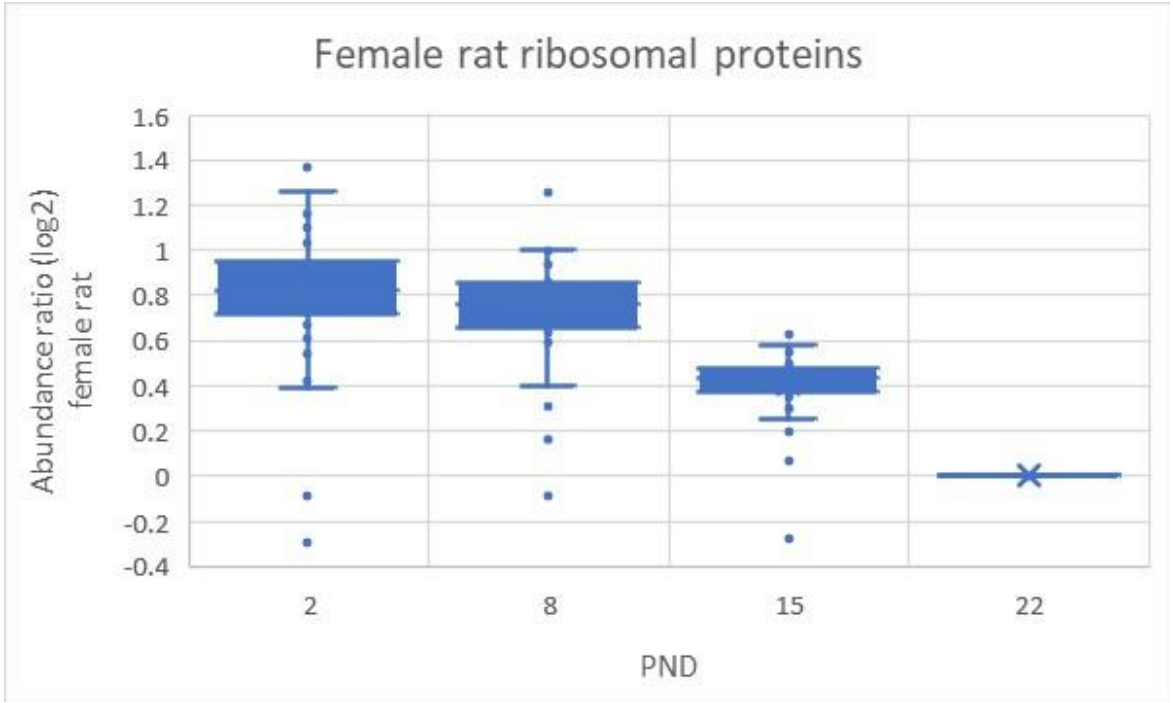
S.Fig 6

PCA grouping of the rat P2, P8, P15, P22 experimental PND male and female groups; six animals per group

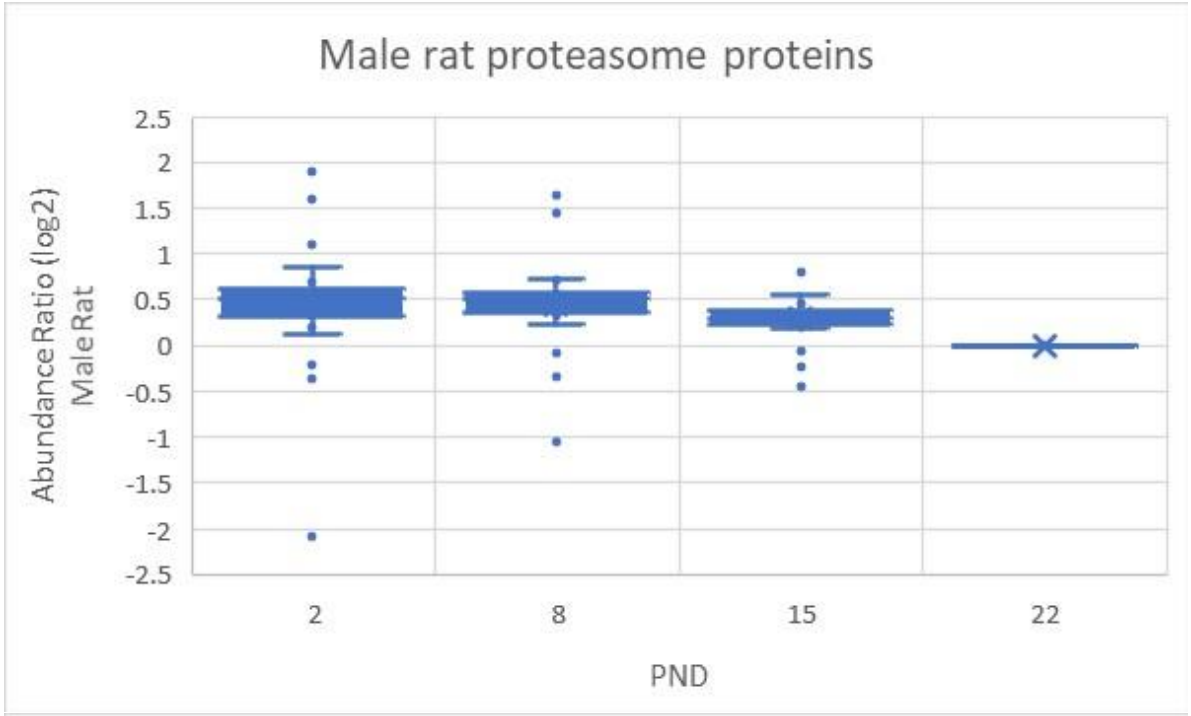

Mouse ribosomal proteins
Abundance ratio (log2) Mouse
1.00
0.80
0.60
0.40
0.20
0.00
-0.20
-0.40
-0.60
9
15
21
PND

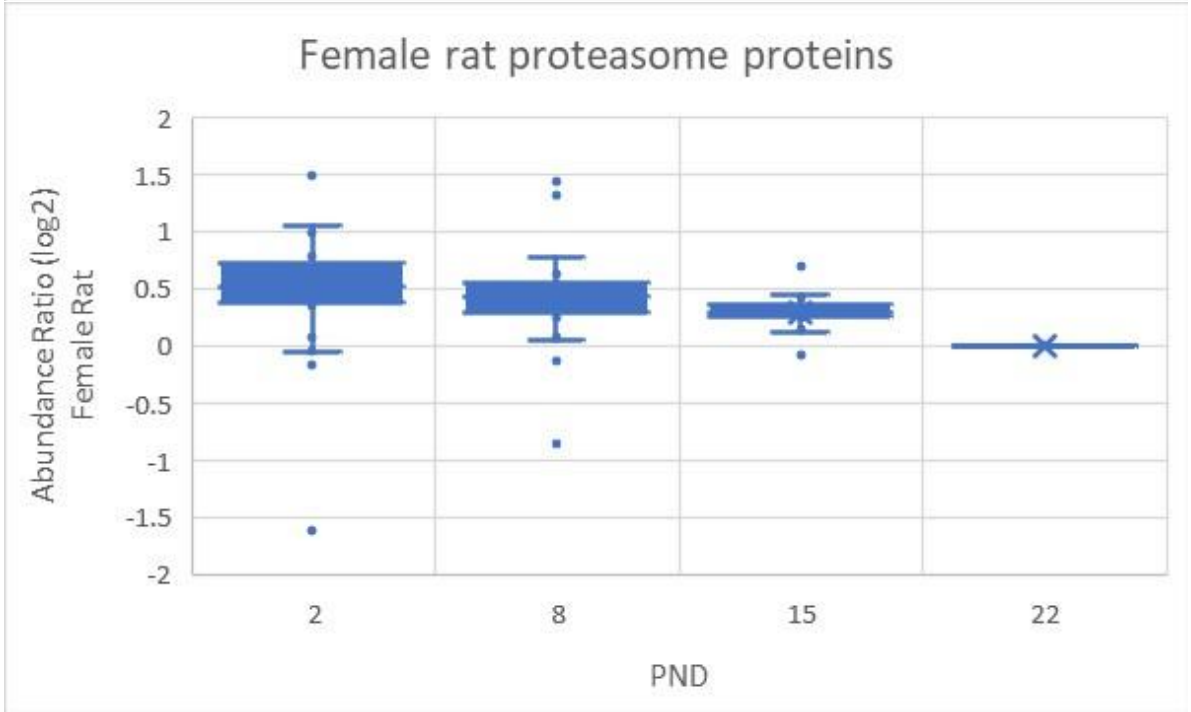
S.Fig. 4a


Male rat ribosomal proteins
Abundance ratio (log2) male rat
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
2
8
15
22
PND

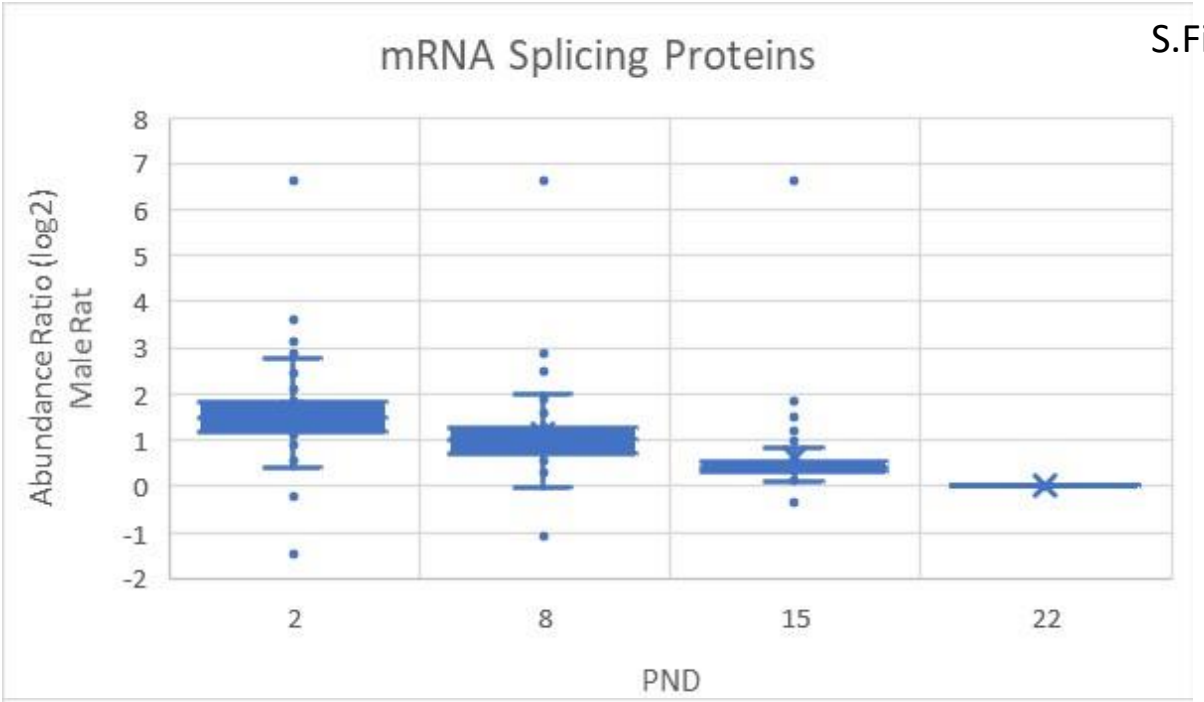

Female rat ribosomal proteins
Abundance ratio (log2) female rat
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
2
8
15
22
PND

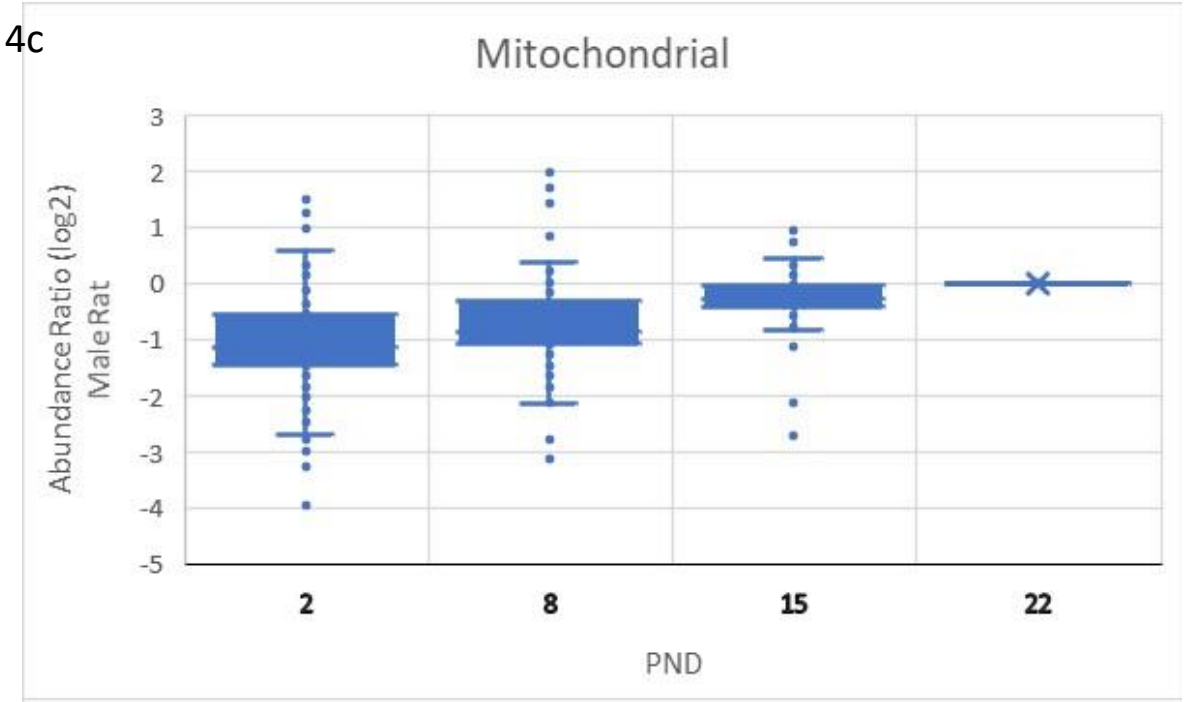
S.Fig. 4b

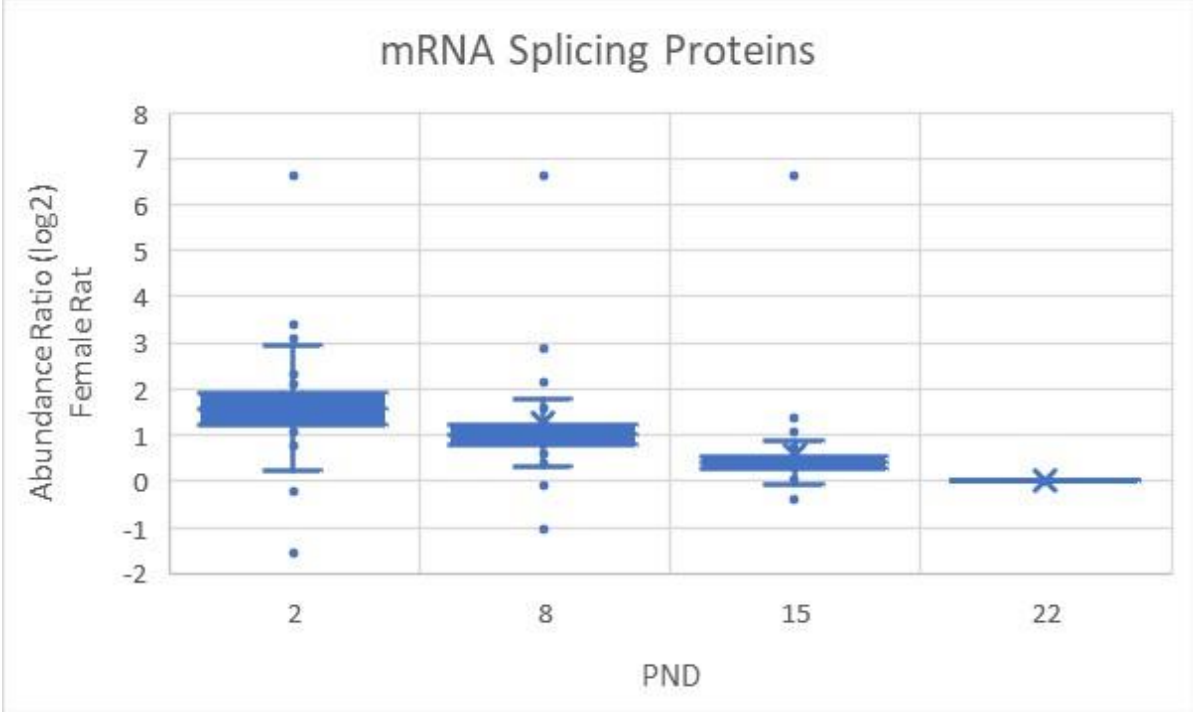

Male rat proteasome proteins
Abundance Ratio (log2) Male Rat
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
2
8
15
22
PND

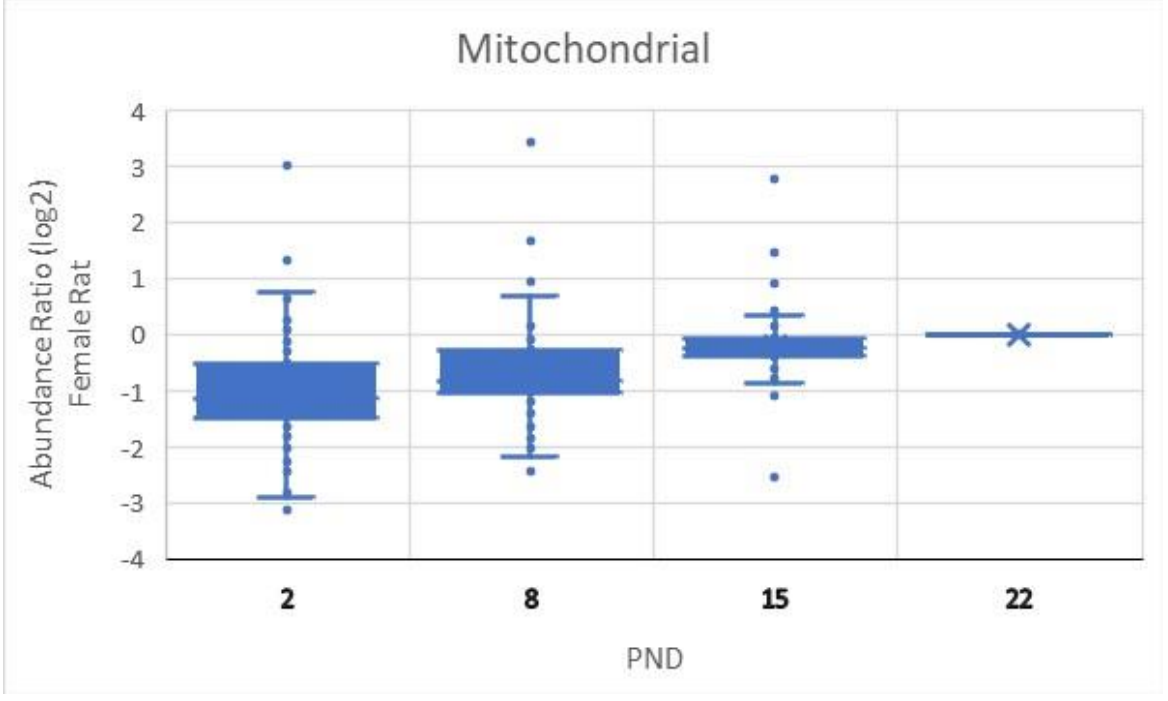

Female rat proteasome proteins
Abundance Ratio (log2) Female Rat
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
2
8
15
22
PND

S.Fig. 4c

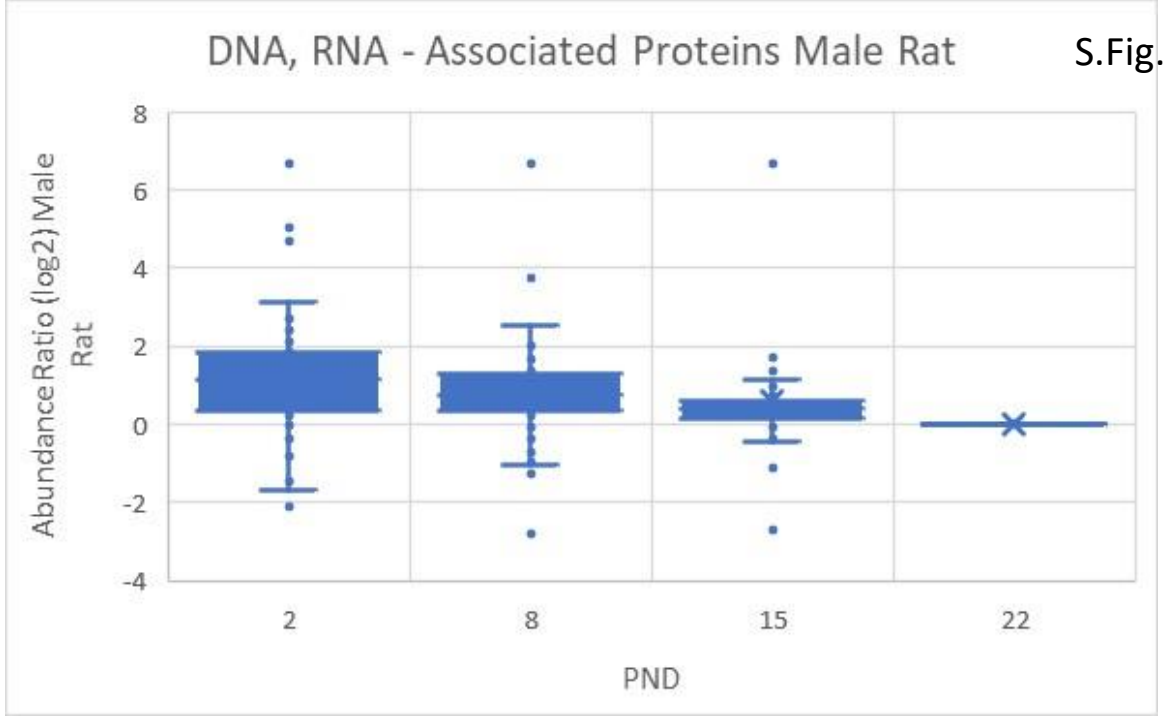

mRNA Splicing Proteins
Abundance Ratio (log2)
Male Rat
8
7
6
5
4
3
2
1
0
-1
-2
2
8
15
22
PND

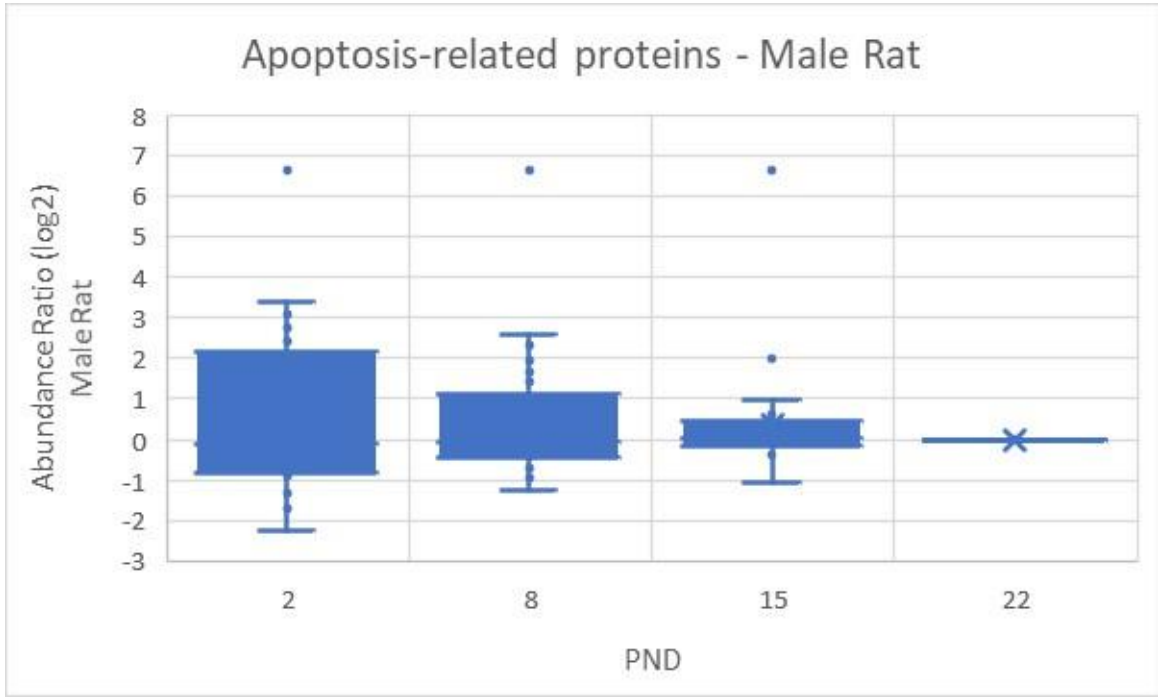

Mitochondrial
Abundance Ratio (log2)
Male Rat
3
2
1
0
-1
-2
-3
-4
-5
2
8
15
22
PND

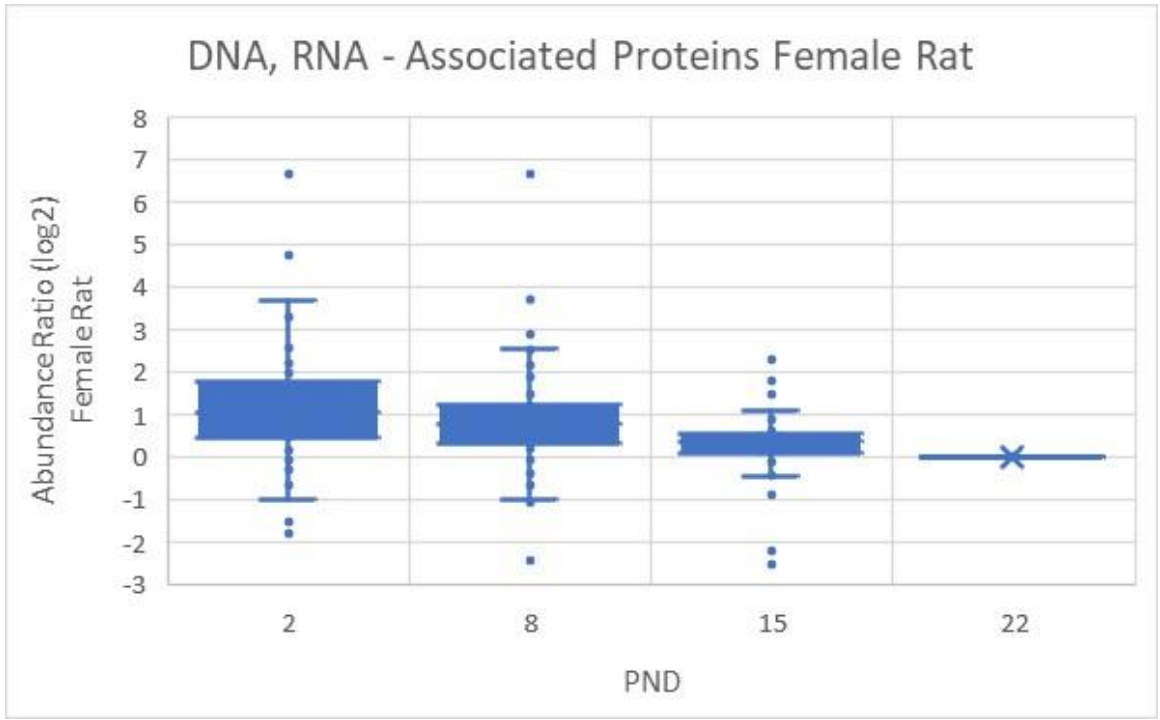

mRNA Splicing Proteins
Abundance Ratio (log2)
Female Rat
8
7
6
5
4
3
2
1
0
-1
-2
2
8
15
22
PND

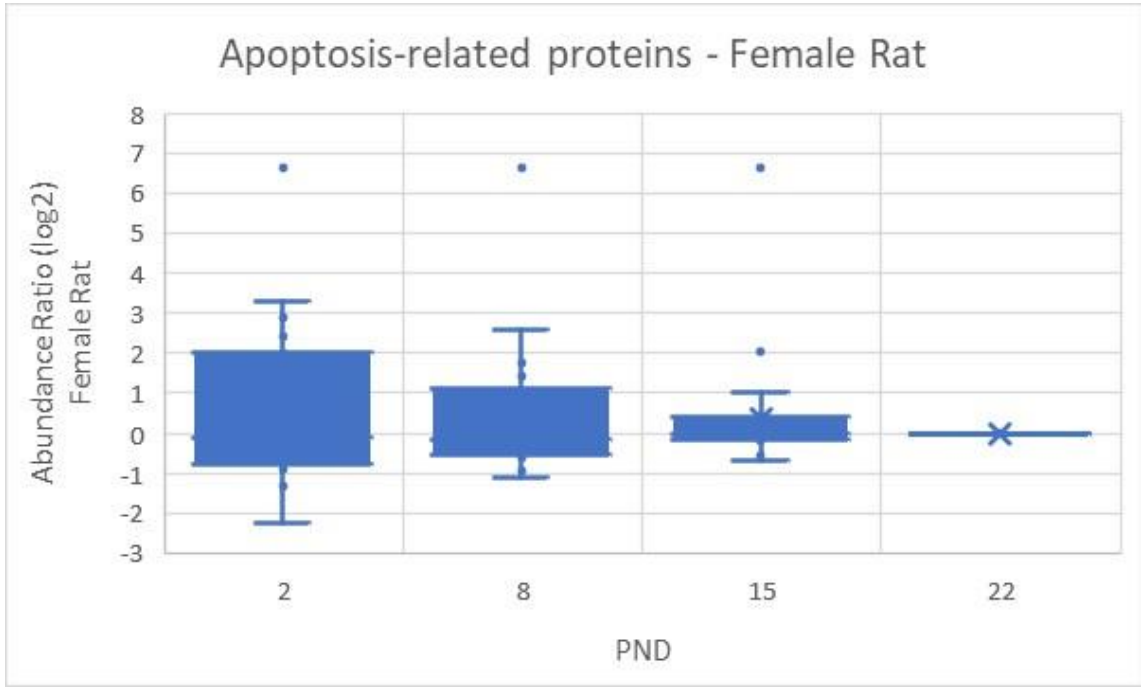

Mitochondrial
Abundance Ratio (log2)
Female Rat
4
3
2
1
0
-1
-2
-3
-4
2
8
15
22
PND

S.Fig. 4d

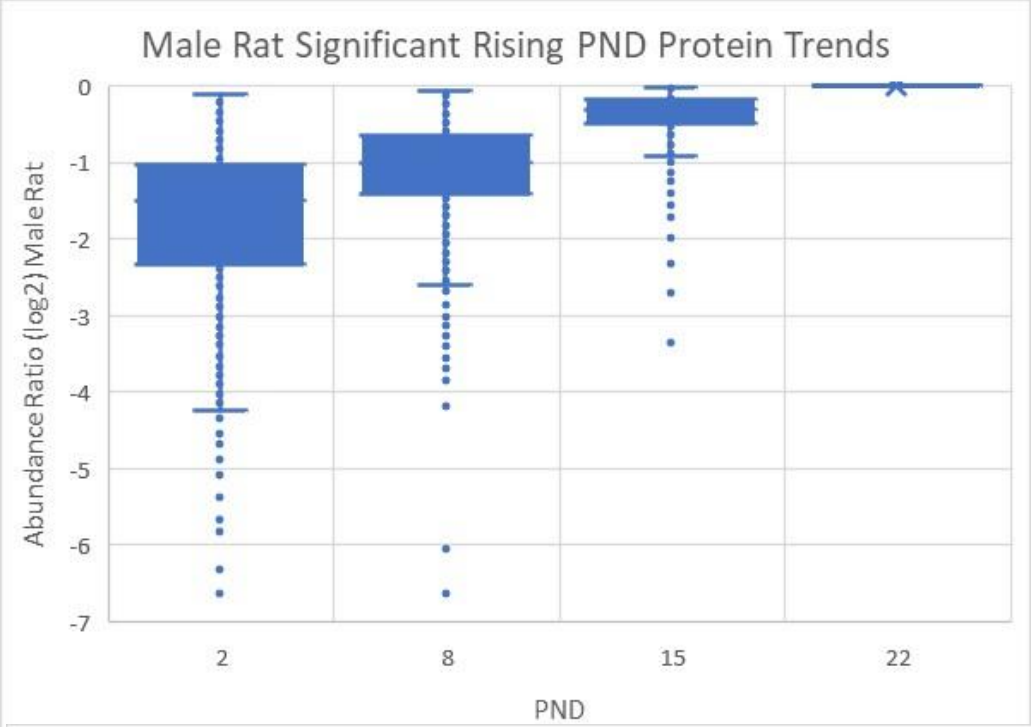

DNA, RNA - Associated Proteins Male Rat
Abundance Ratio (log2) Male Rat
8
6
4
2
0
-2
-4
2
8
15
22
PND

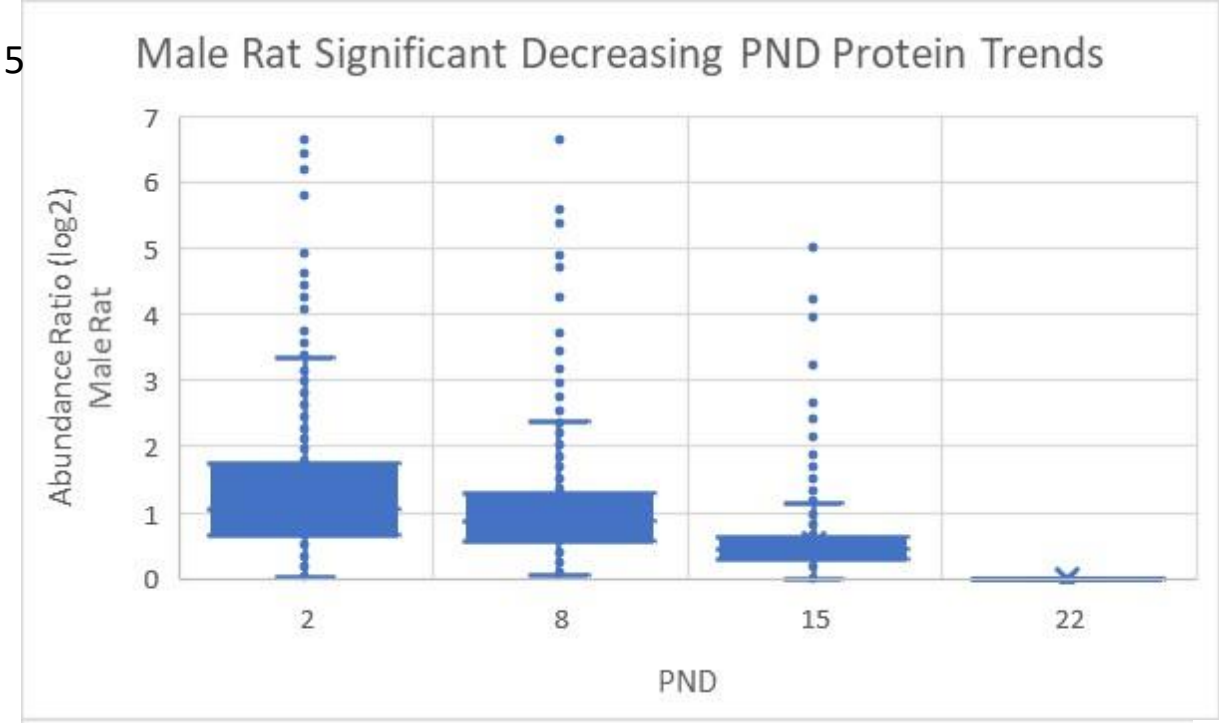

Apoptosis-related proteins - Male Rat
Abundance Ratio (log2) Male Rat
8
7
6
5
4
3
2
1
0
-1
-2
-3
2
8
15
22
PND

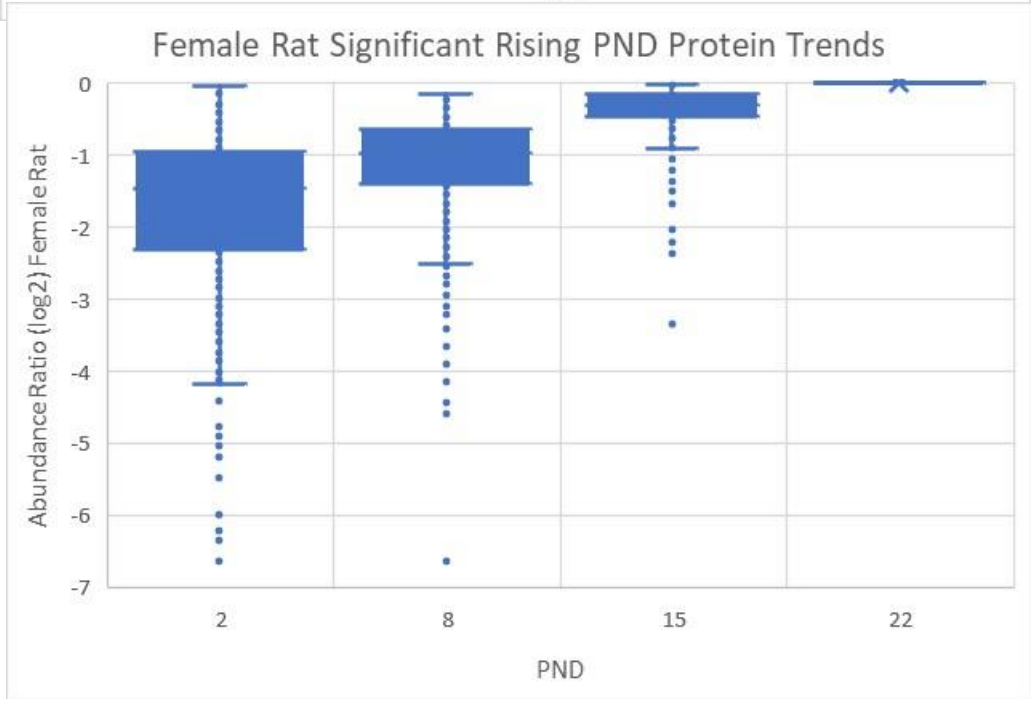

DNA, RNA - Associated Proteins Female Rat
Abundance Ratio (log2) Female Rat
8
7
6
5
4
3
2
1
0
-1
-2
-3
2
8
15
22
PND

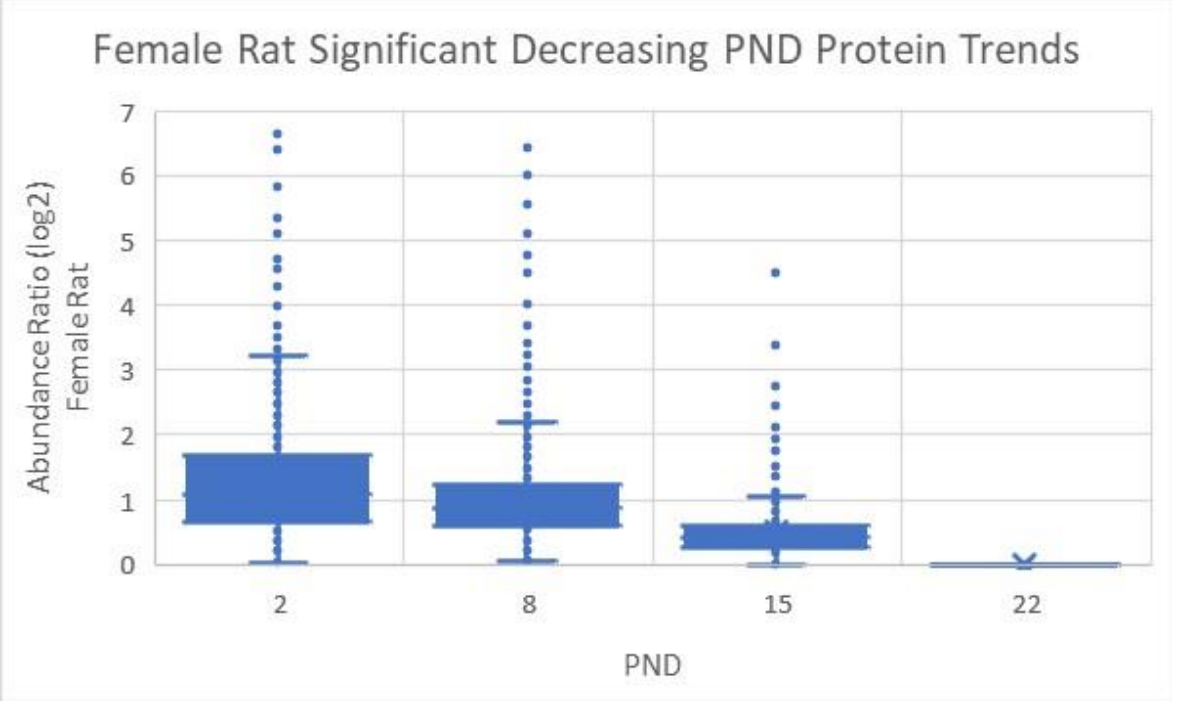

Apoptosis-related proteins - Female Rat
Abundance Ratio (log2) Female Rat
8
7
6
5
4
3
2
1
0
-1
-2
-3
2
8
15
22
PND

S.Fig. 5

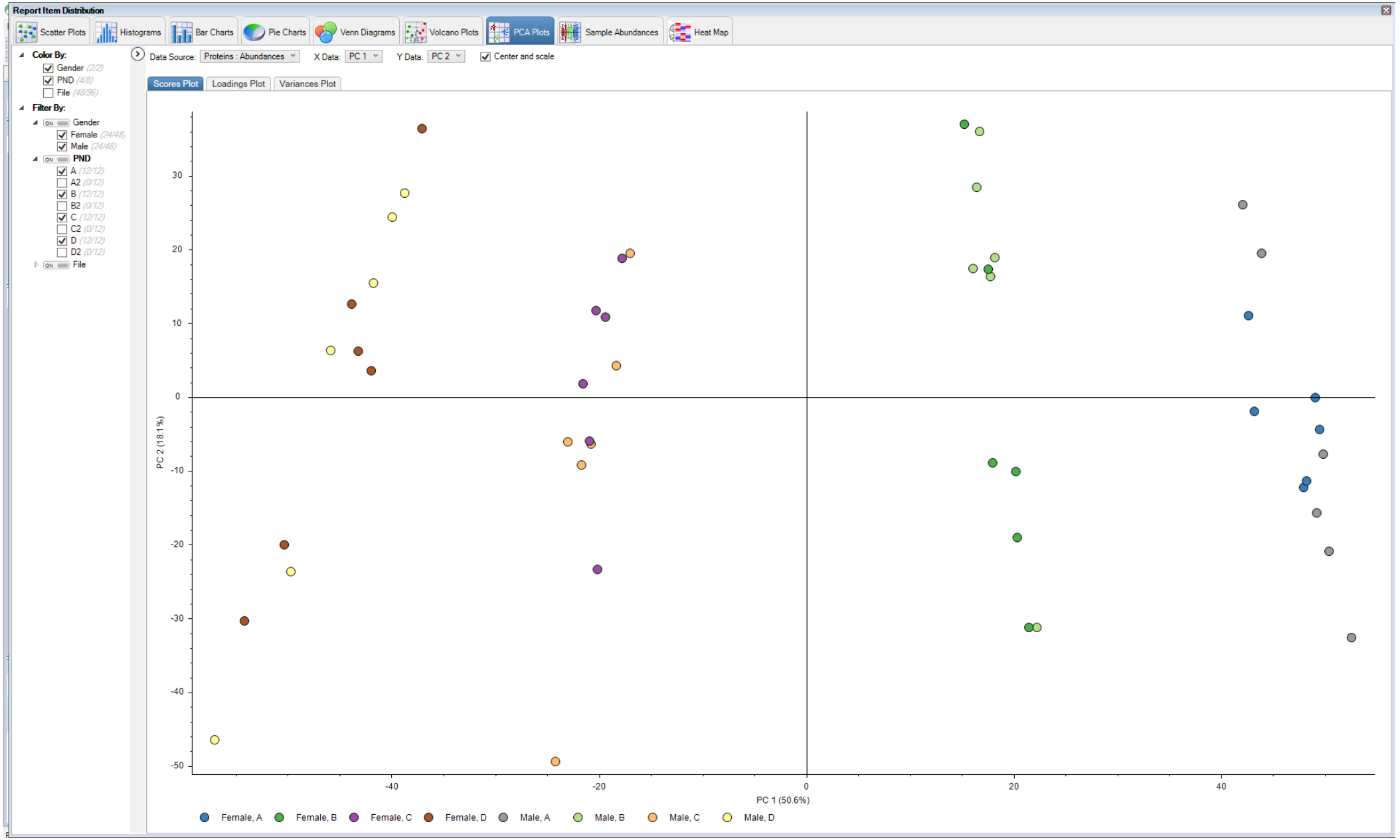

Male Rat Significant Rising PND Protein Trends
Abundance Ratio (log2) Male Rat
0
-1
-2
-3
-4
-5
-6
-7
2
8
15
22
PND


Male Rat Significant Decreasing PND Protein Trends
Abundance Ratio (log2) Male Rat
7
6
5
4
3
2
1
0
2
8
15
22
PND


Female Rat Significant Rising PND Protein Trends
Abundance Ratio (log2) Female Rat
0
-1
-2
-3
-4
-5
-6
-7
2
8
15
22
PND


Female Rat Significant Decreasing PND Protein Trends
Abundance Ratio (log2) Female Rat
7
6
5
4
3
2
1
0
2
8
15
22
PND

**S.Fig. 6**


Report Item Distribution
Scatter Plots
Histograms
Bar Charts
Pie Charts
Venn Diagrams
Volcano Plots
PCA Plots
Sample Abundances
Heat Map
Color By:
Gender (2/2)
PND (4/8)
File (48/96)
Filter By:
Gender
Female (24/48)
Male (24/48)
PND
A (12/12)
A2 (0/12)
B (12/12)
B2 (0/12)
C (12/12)
C2 (0/12)
D (12/12)
D2 (0/12)
File
Data Source: Proteins : Abundances
X Data: PC 1
Y Data: PC 2
Center and scale
Scores Plot
Loadings Plot
Variances Plot
PC 2 (18.1%)
PC 1 (50.6%)
Female, A
Female, B
Female, C
Female, D
Male, A
Male, B
Male, C
Male, D