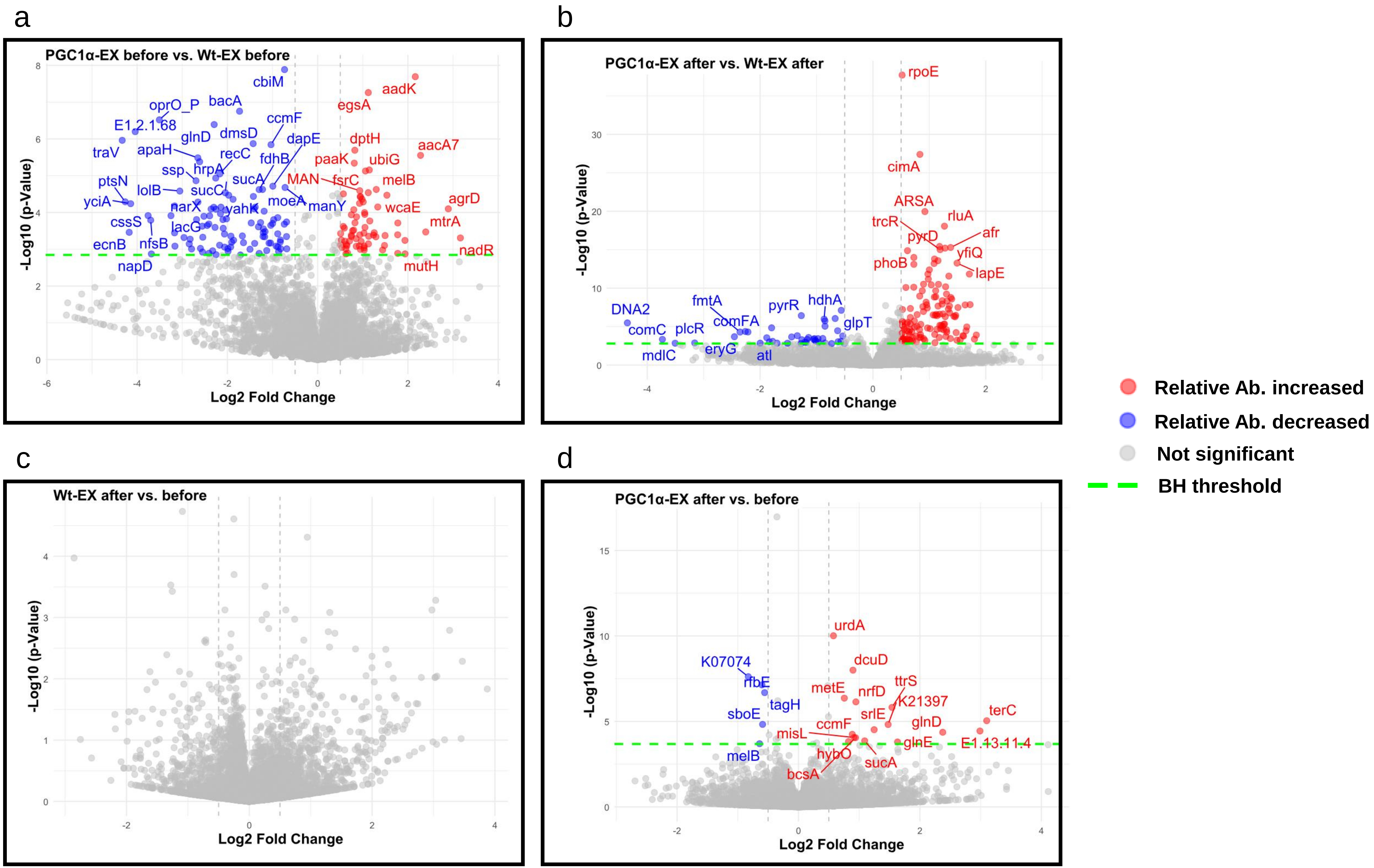
Supplementary information

Table S1 Taxon comparison of treatment groups at the genus level
Columns depict taxon name, log 2 fold changes, the unmodified p value of group comparison, and Benjamini-Hochberg corrected p values

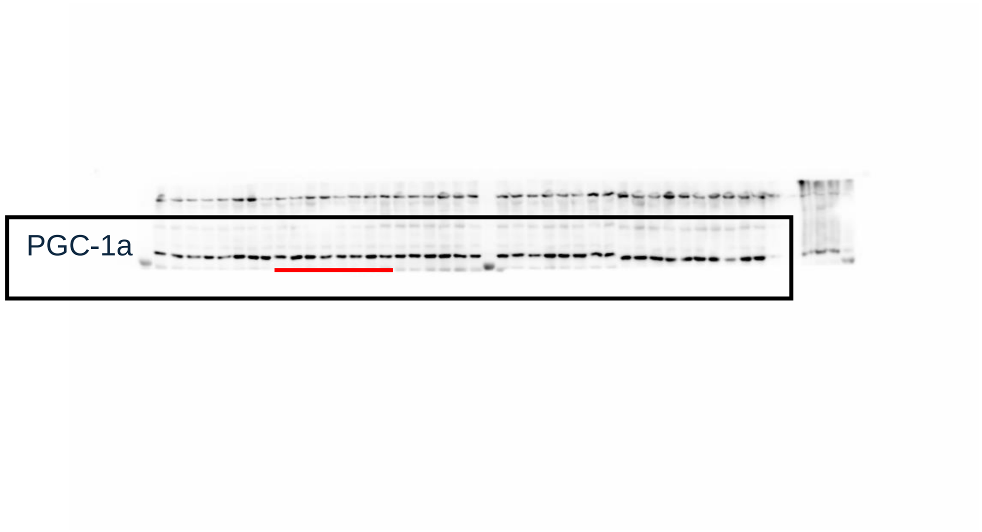
Table S2 Biological pathway comparison of treatment groups at the genus level
Columns depict biological pathway name, log 2 fold changes, the unmodified p value of group comparison, and Benjamini-Hochberg corrected p values

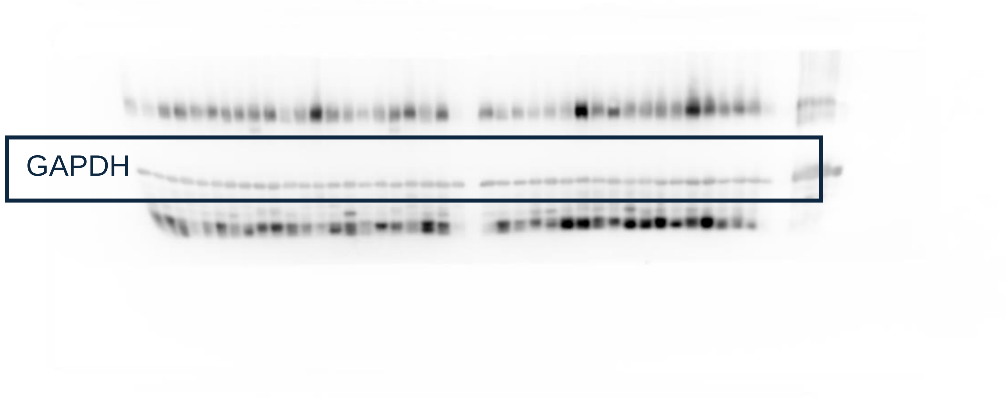
Figure S1 Effects of muscle specific PGC-1α over expression and exercise on gut microbiological biological pathways. a-d panels show the changes in the abundance of bacterial pathways in the gut microbiome at the genus level. Red dots represent significantly increased abundance, while blue dots indicate significantly decreased abundance between the groups depicted in the upper right corner of each panel. The green dashed line marks the Benjamini-Hochberg (BH) correction threshold, and gray lines indicate ±0.5 Log2 fold change.

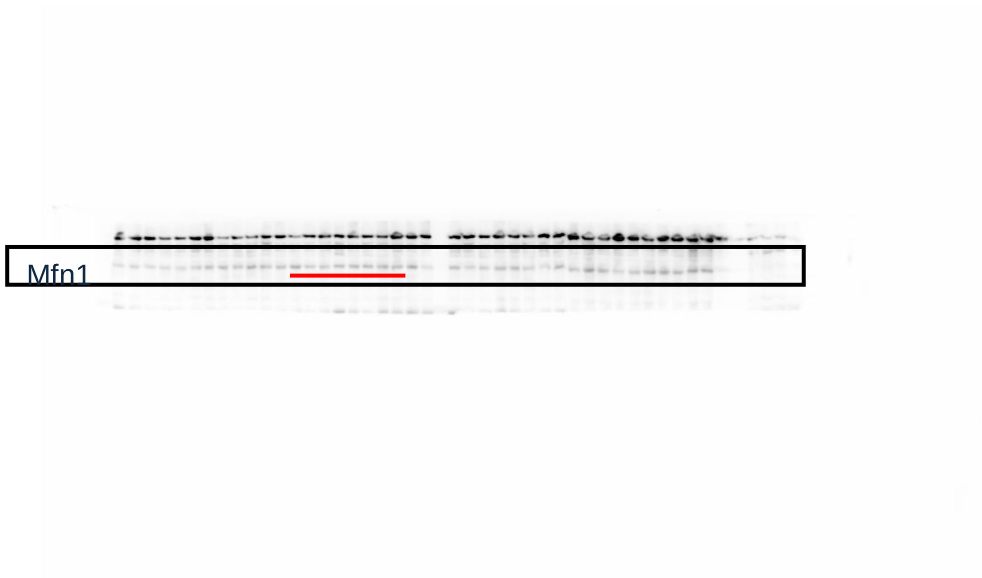
Original western blot images. Red underlines indicate the bands selected and shown in Figure 3 a-j and Figure 1 b.

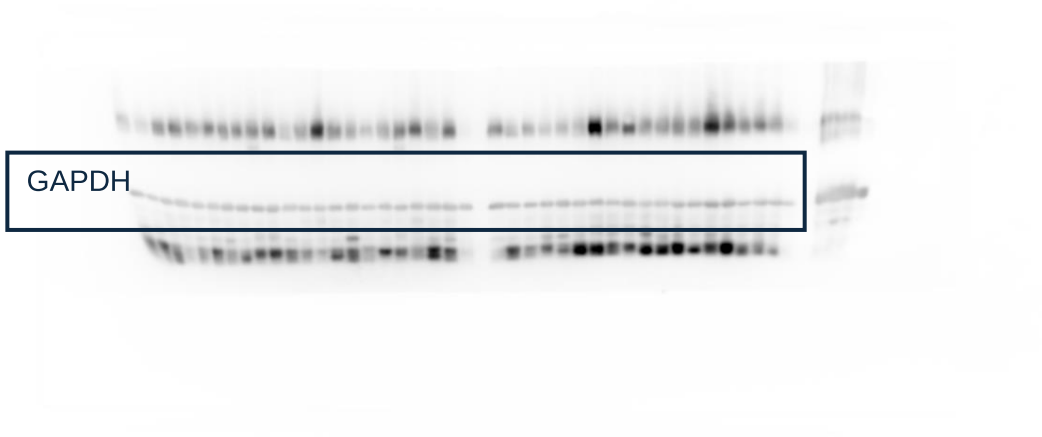

a
PGC1α-EX before vs. Wt-EX before
-Log10 (p-Value)
Log2 Fold Change
-6
-4
-2
0
2
4
8
6
4
2
0
cbiM
aadK
egsA
oprO_P
bacA
E1.2.1.68
ccmF
dmsD
glnD
dapE
dptH
aacA7
traV
apaH
recC
fdhB
paaK
ubiG
ssp
hrpA
sucA
MAN
fsrC
melB
ptsN
lolB
sucC
moeA
manY
wcaE
agrD
yciA
narX
yahK
mtrA
cssS
lacG
ecnB
nfsB
nadR
mutH
napD
b
PGC1α-EX after vs. Wt-EX after
-Log10 (p-Value)
Log2 Fold Change
30
20
10
0
-4
-2
0
2
rpoE
cimA
ARSA
rluA
trcR
afr
pyrD
yfiQ
phoB
lapE
DNA2
fmtA
pyrR
hdhA
comFA
glpT
comC
plcR
eryG
mdlC
atl
c
Wt-EX after vs. before
-Log10 (p-Value)
Log2 Fold Change
4
3
2
1
0
-2
0
2
4
d
PGC1α-EX after vs. before
-Log10 (p-Value)
Log2 Fold Change
15
10
5
0
-2
0
2
4
urdA
dcuD
K07074
ttrS
rfbE
metE
nrfD
K21397
tagH
srlE
terC
sboE
ccmF
glnD
misL
glnE
E1.13.11.4
hybO
melB
sucA
bcsA
Relative Ab. increased
Relative Ab. decreased
Not significant
BH threshold

PGC-1α (figure 3 h)

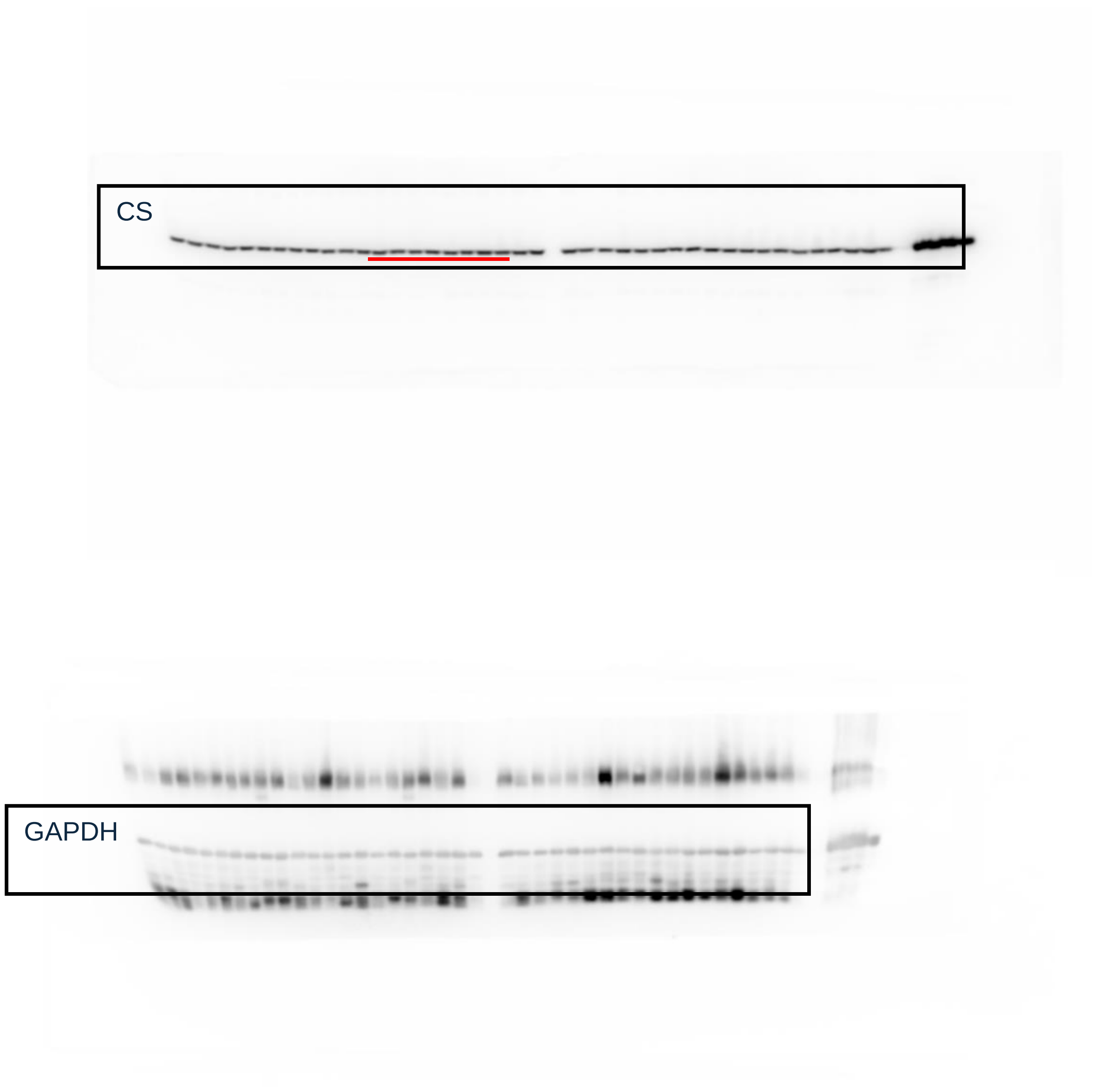




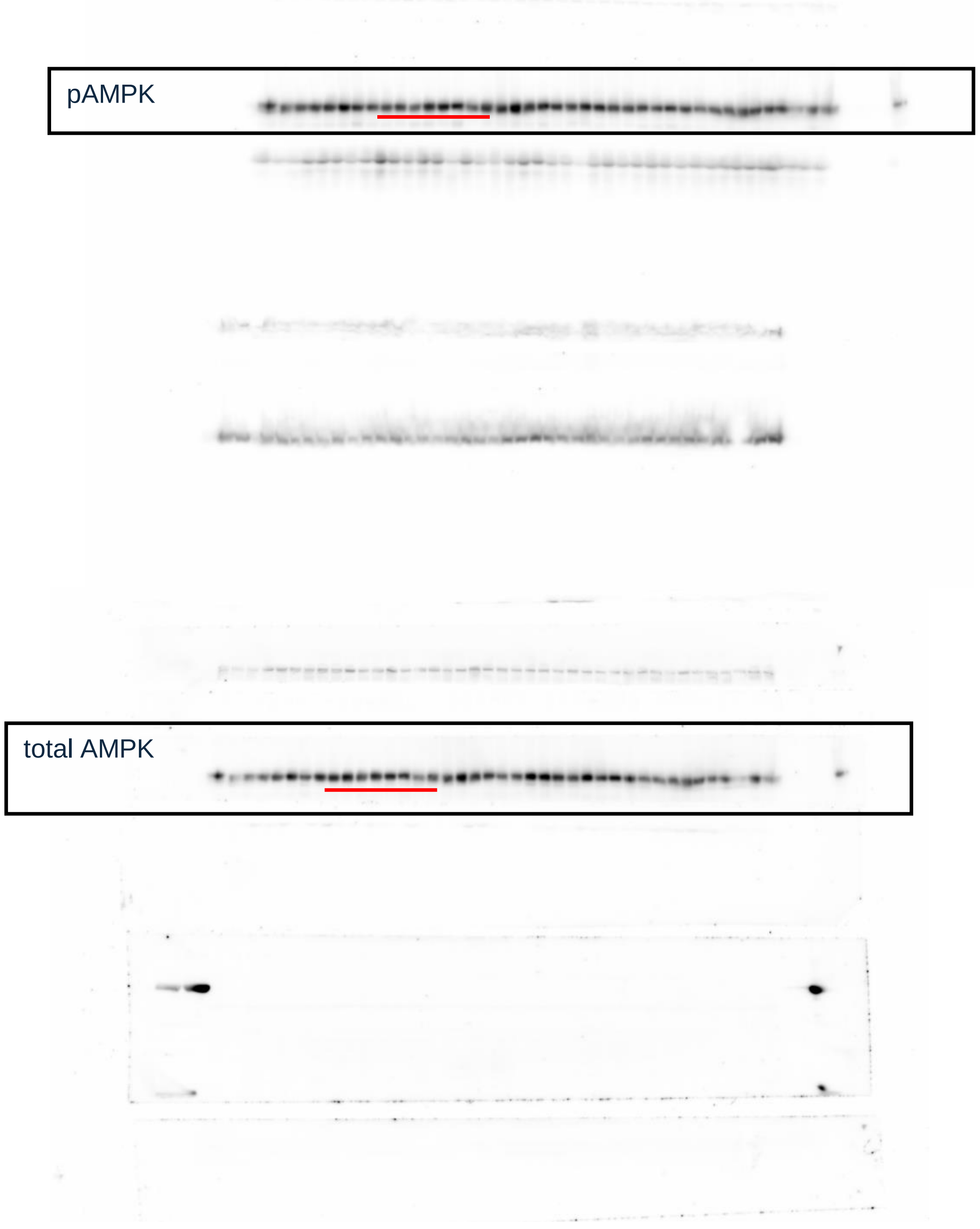




MFN1(figure 3 j)

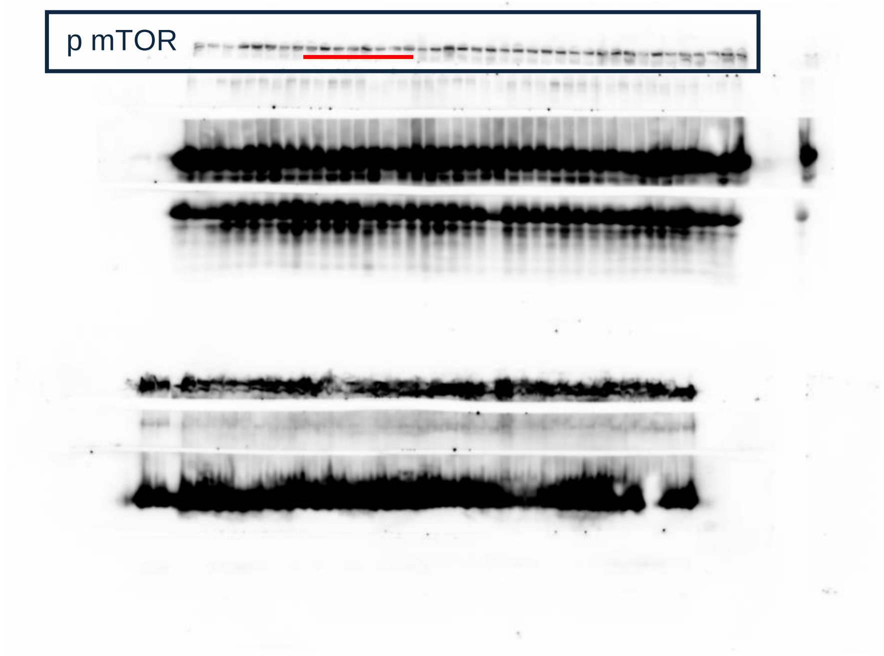


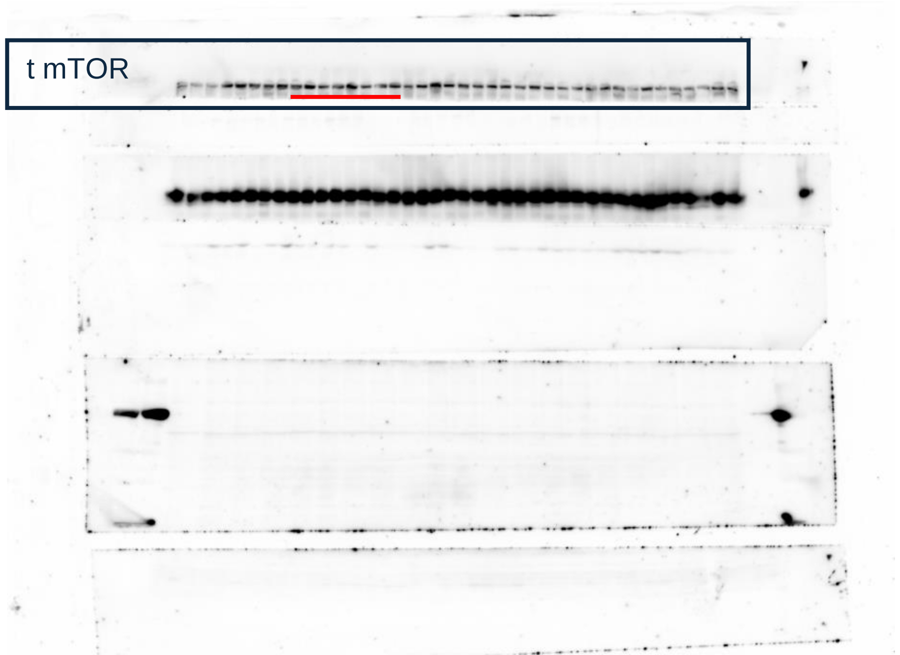
CS (figure 3 i)



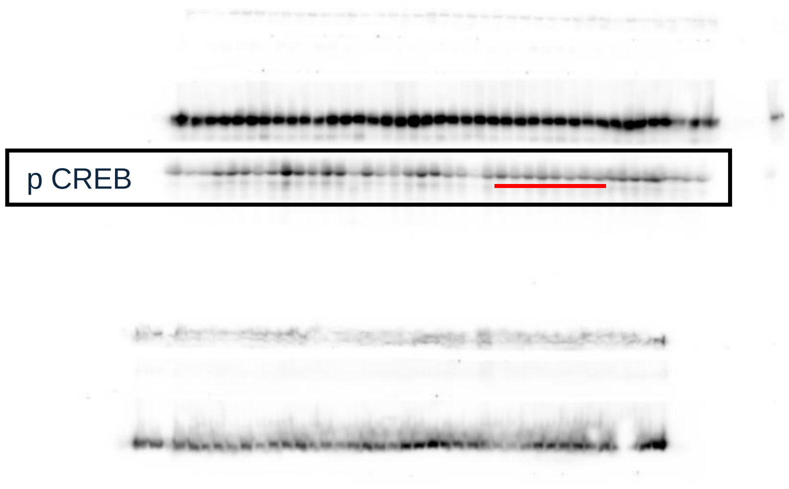
p/t AMPK (figure 3 a)

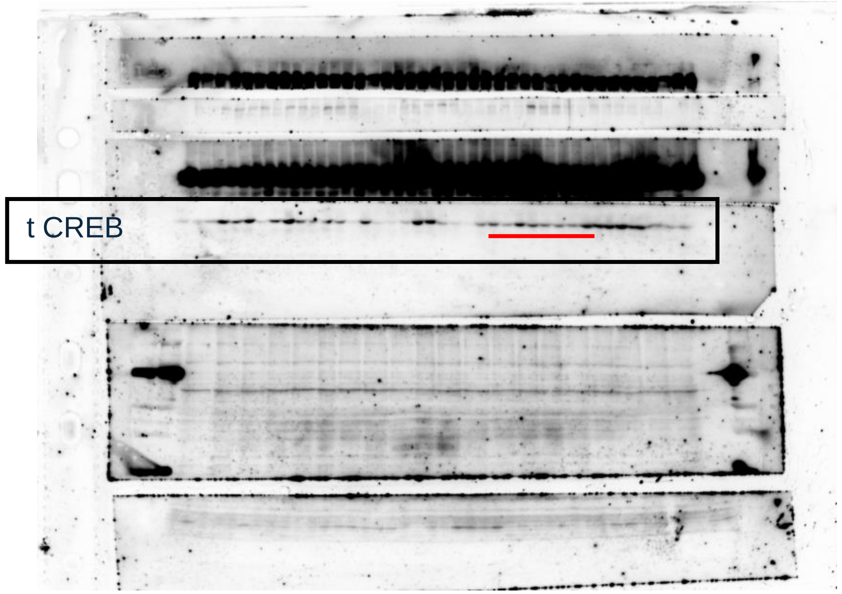
p/t mTOR (figure 3 c)



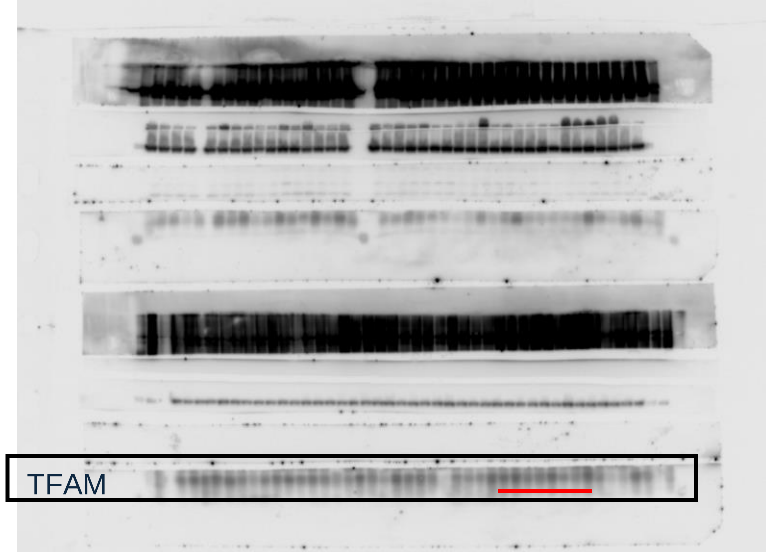


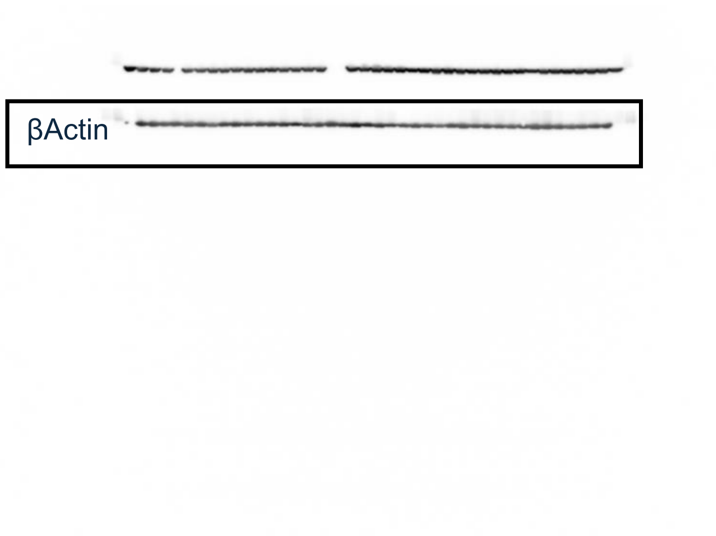
p/t CREB (figure 3 b)

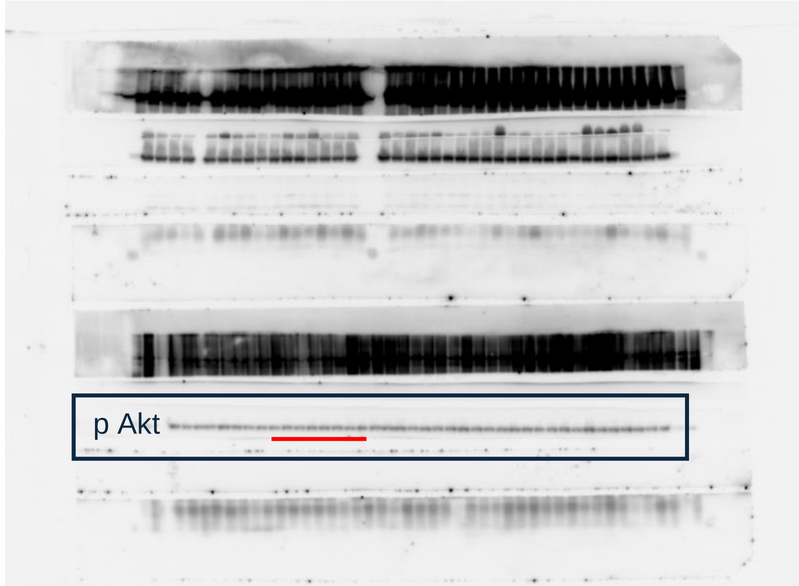


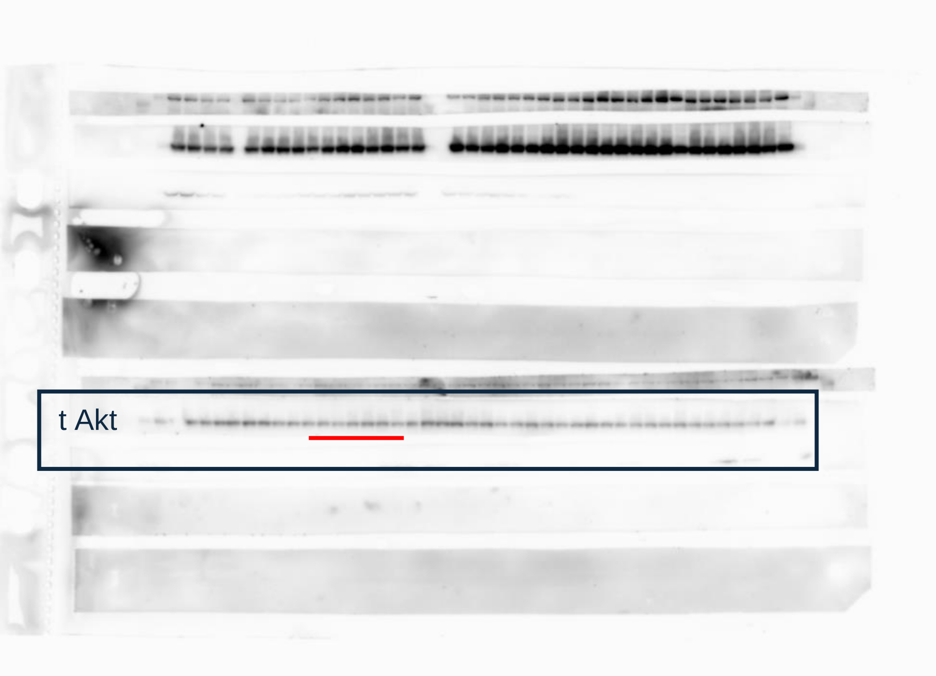


TFAM (figure 3 e)

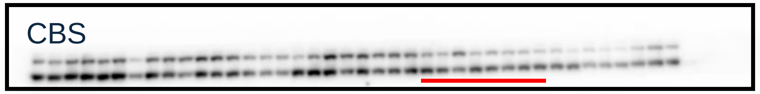




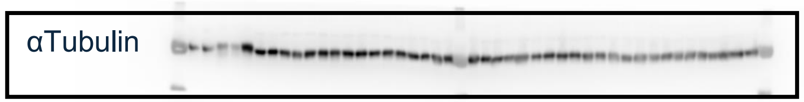




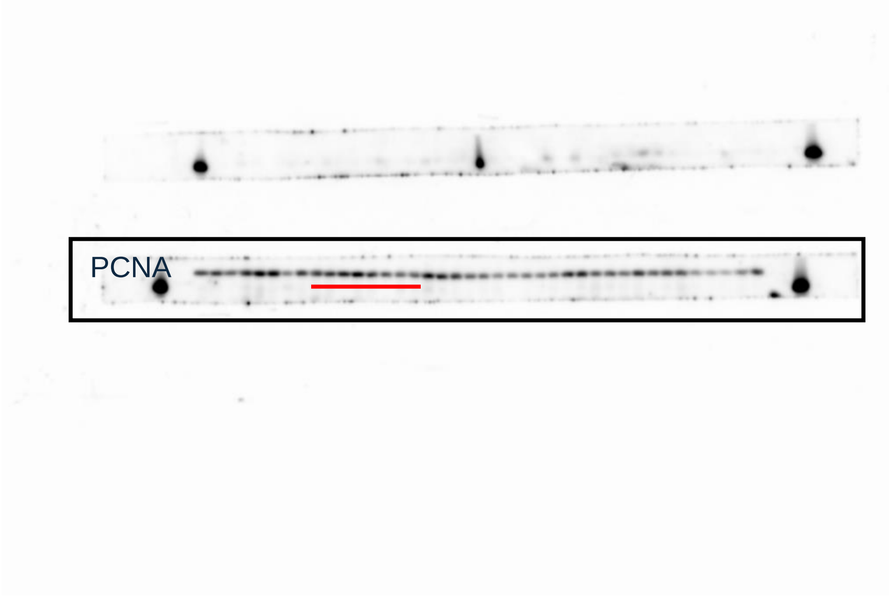
p/t AKT(figure 3 d)

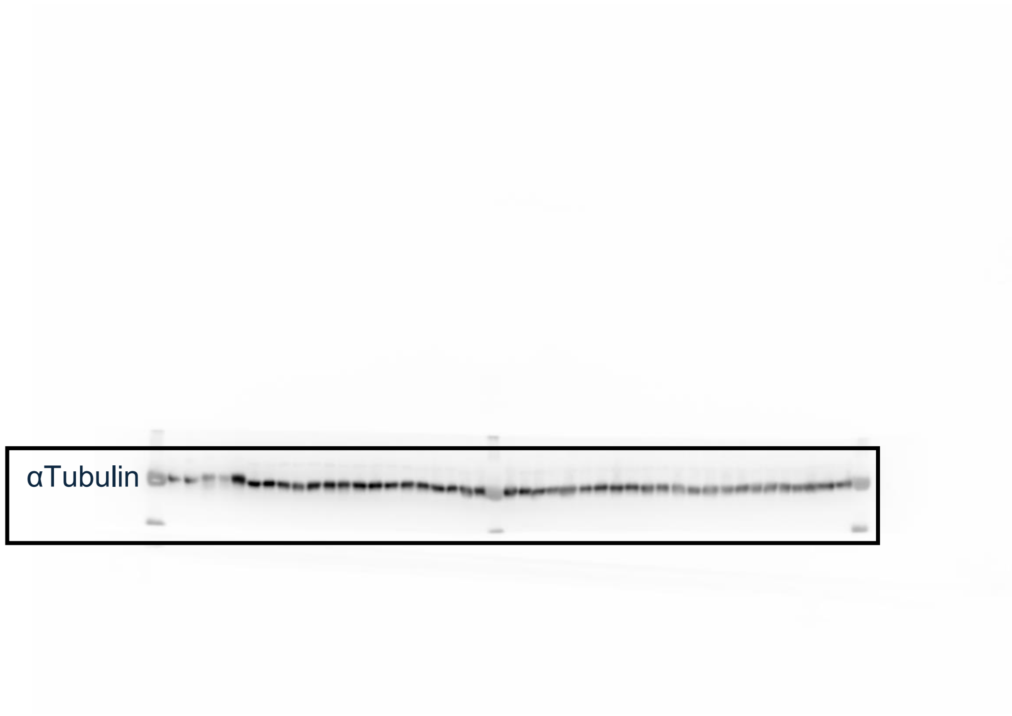


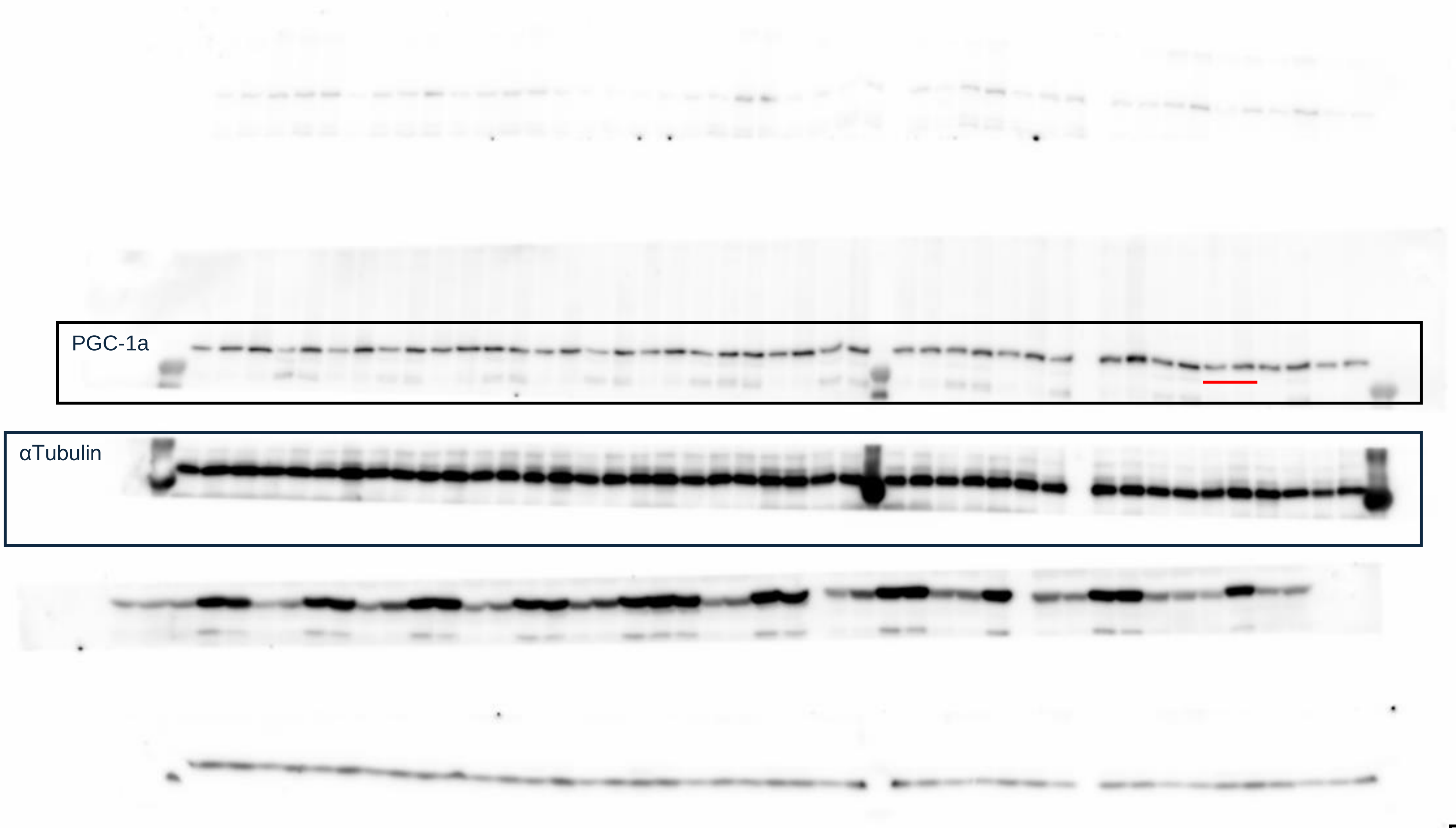
CBS (figure 3 f)



PCNA (figure 3 g)







PGC-1α in skeletal muscle