

Proteome-wide analysis reveals widespread lysine acetylation of major protein complexes in the malaria parasite

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Running Title – Regulation of the acetylome in the malaria parasite

Supplemental Figure 1. Acetyl-lysine sites on histones and conservation across disparate organisms

Supplemental Figure 2. Protein-protein interaction map of acetylated ribosomal proteins and associated translational proteins. STRING9.1 network analysis was performed with medium confidence (0.4) using database, experiments and neighborhood analysis.

Supplemental Figure 3. Distribution of non-acetylated and acetyl-lysine peptides with heavy/light ratios following Tricostatin A treatment

Supplemental Figure 4. Distribution of non-acetylated and acetyl-lysine peptides with heavy/light ratios in Sirtuin 2A genetically-disrupted parasites compared to wild type

Supplemental Figure 5. Distribution of non-acetylated and acetyl-lysine peptides with heavy/light ratios in Sirtuin 2B genetically-disrupted parasites compared to wild type

Supplemental Figure 6. Distribution of non-acetylated and acetyl-lysine peptides with heavy/light ratios following acetate treatment

Supplemental Dataset 1. Complete list of characterized sites of Acetyl-lysine

Supplemental Dataset 2. Comparison of acetyl lysine sites detected in Miao et al. 2013

Supplemental Dataset 3. GO term and domain enrichment analysis

Supplemental Dataset 4. Exported/Host Acetyl-lysine protein list

Supplemental Dataset 5. Summary of each SILAC experiment with >2 and <0.5 H/L pairs

Supplemental Dataset 6. Complete List of TSA SILAC H/L pairs

Supplemental Dataset 7. Complete List of Sir2A SILAC H/L pairs

Supplemental Dataset 8. Complete List of Sir2B SILAC H/L pairs

Supplemental Dataset 9. Complete List of acetate pulse SILAC H/L pairs

Supplemental Figure 1A

29 sites from Trelle 2009 + 5 from Miao 2013 (29/34 sites) including – 24 new sites

K = previously identified site

K = missed site

K = missed site

H2A.Z

MEVPG VIGG VGG VGG VLGLG GG GTGSGT KAPLSRASRAGLQFPVGRV
HRMLKSRISSDGRVGSTAAVYAAAILEYLTAEVLELAGNATKDLKVKRITPRHLQLAIRG
DEELDTLIKATIAGGGVIPHIH ALMN VPLPPTAQ PKKN

Ac-K Sites Detected – 6,11,15,19,25,28,30,35,139,144,153,154

Ac-K Sites Missed – 37

H3

MARTKQTAR STAG APR QLAS AAR SAPISAGI PHRYRPGTVALREIRRYQ S
TDLIRKLFPQRLVREIAQDY TDLRFQSSAVMALQEAAEAYLVGLFEDTNLCAIHAKRV
TIMP DIQLARRIGERS

Ac-K Sites Detected – 10,15,19,24,28,37,38,80,123

Ac-K Sites Missed – 57

H2A

MSA G TGRKKASKGTSNSAKAGLQFPVGRIGRYLKKGKYAKRVGAGAPVYLAHVLE
YLCAEILELAGNAARDNKKSRITPRHIQLAVRNDEELNKFLAGVTFASGGVLPNIHNVLL
PKKSQL AGTANQDY

Ac-K Sites Detected – 124

Ac-K Sites Missed – 4,6

H3.3

MARTKQTAR STGG APR QLAS AAR SAPVSTGI PHRYRPGTVALREIRKFQKS
TDLIRKLFPQRLVREIAQDY TDLRFQSSAVMALQEAAEAYLVGLFEDTNLCAIHAKRV
TIMP DIQLARRIGERS

Ac-K Sites Detected – 10,15,19,24,28,37,38,80,123

CenH3

MVRTKKNIHNPLNAFNDRKSF TN TLPNRTVHHGISS TTNINRPSVNRGGINEV
AQ NLHRTNIRKPHRYRPGVLALKEIRAYQASTQLIPKIPFVRVVKETRLFELPDEQFR
YTPALLALQTASEAYLVSLFEDAYLCSLHANRVTLMPKDIHLARRIRGRD

Ac-K Sites Detected – 24,27,41,61

H4

MSGRG GG GLG GGA RHR ILRDNIQGIT PAIRRLARRGGVVKRISGLIYEEIRGVLR
VFLENVIKDSIMYTEHAKR TVTAMDIVYSLKRQGRITLYGFGG

Ac-K Sites Detected – 6,9,13,17,32,80

Ac-K Sites Missed – 21

H2B.Z

MSG GPAQ SQAA K TAG TLGPRHKRRRTESFSLYIFKVLKQVHPETGVTKKSMNI
MNSFINDIFDRLVTEATRLIRYNKKRTLSSREIQTAVRLLPGELSKHAVSEGKAVTKYT
TSAA

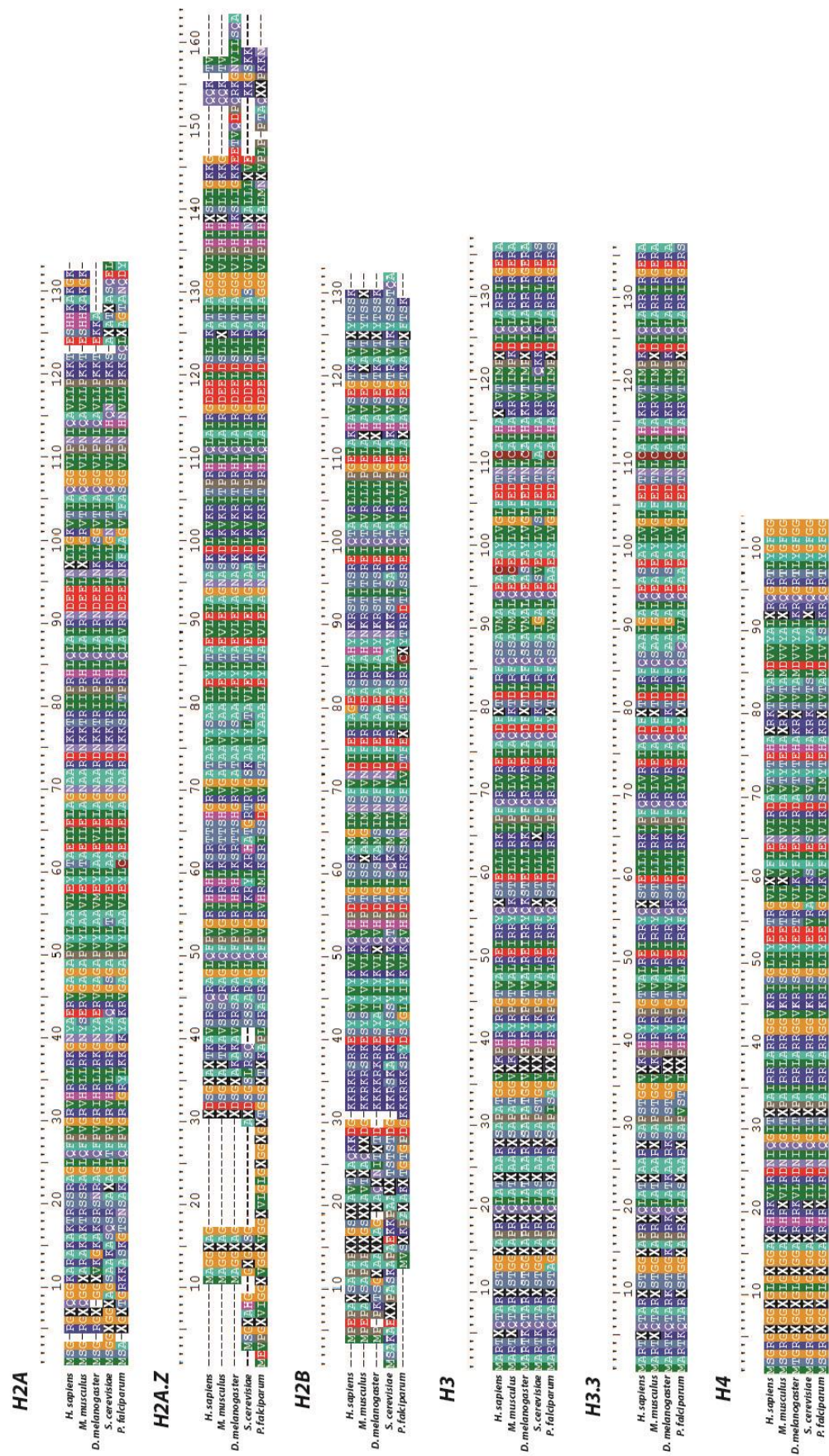
Ac-K Sites Detected – 4,9,14,15,19

H2B

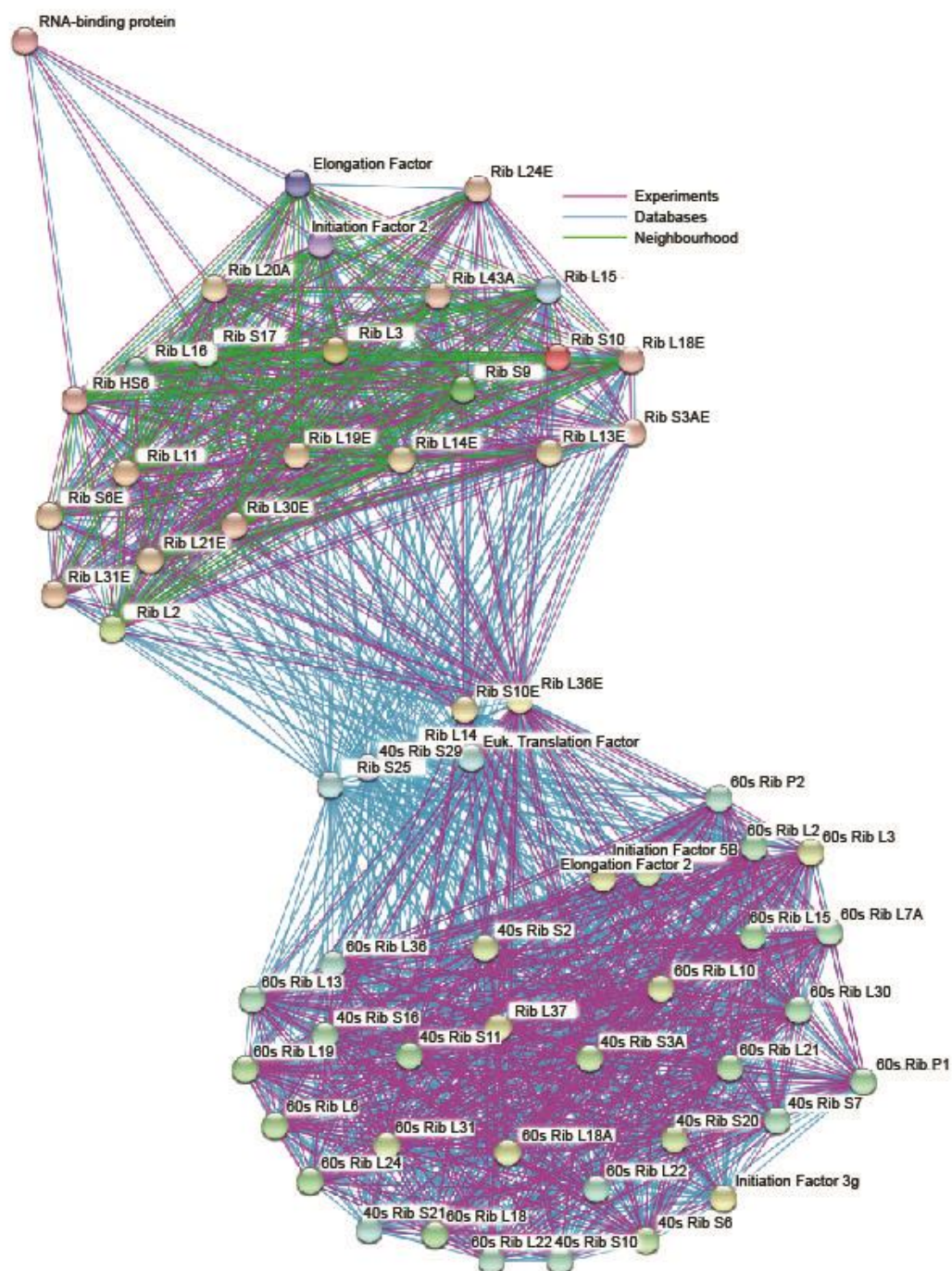
MVS KPA AK TGTGPDGKKRKKSRYSYGLYIFKVLKQVHPDTGISRKSMMNIMNSF
LVDTFE IATEASRLC YTRRDLSSREIQTAIRLVLPGELA HAVSEGKAVT FTSC

Ac-K Sites Detected – 4,8,11,65,75,101,113

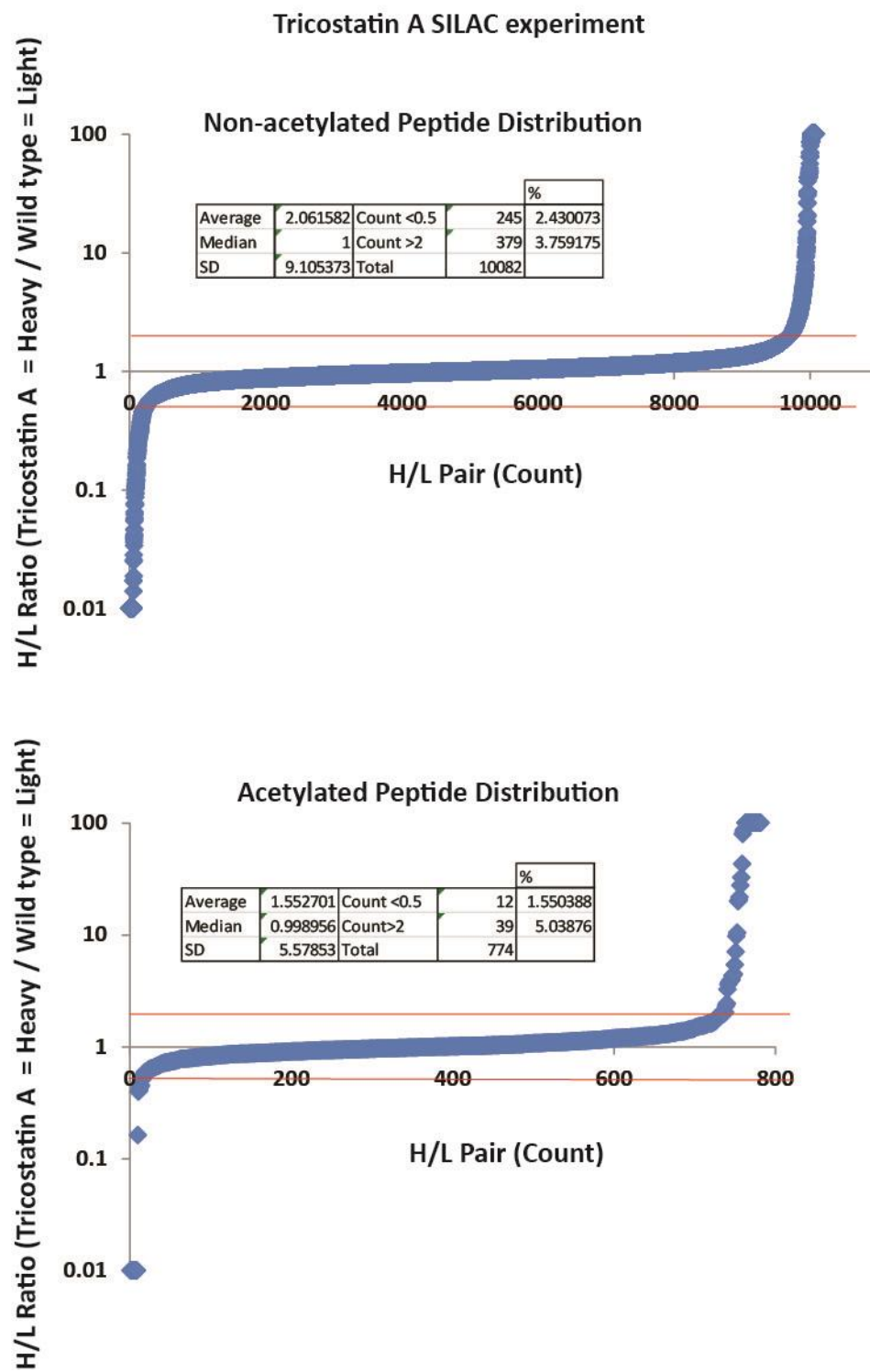
Supplemental Figure 1B



Supplemental Figure 2

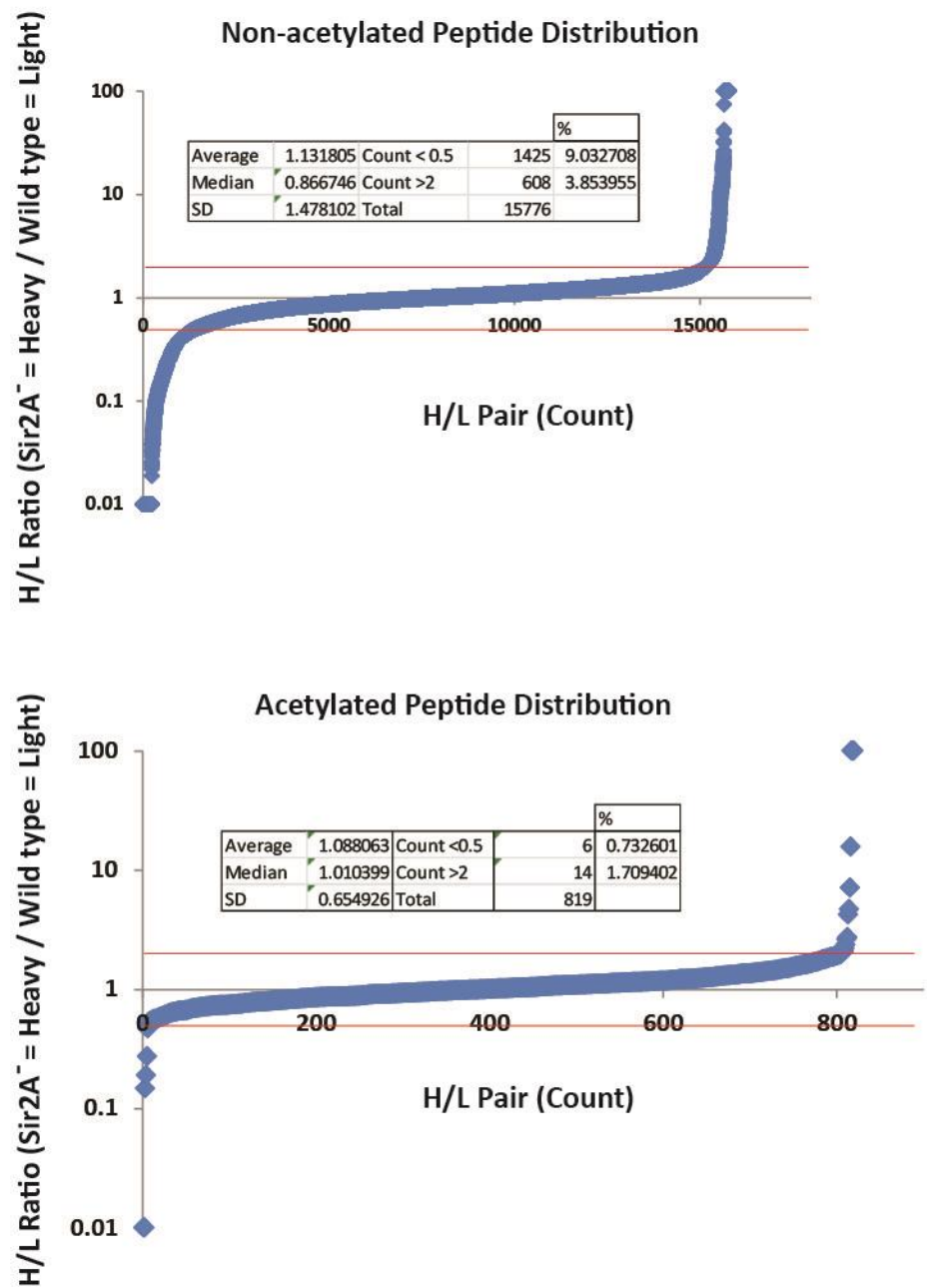


Supplemental Figure 3



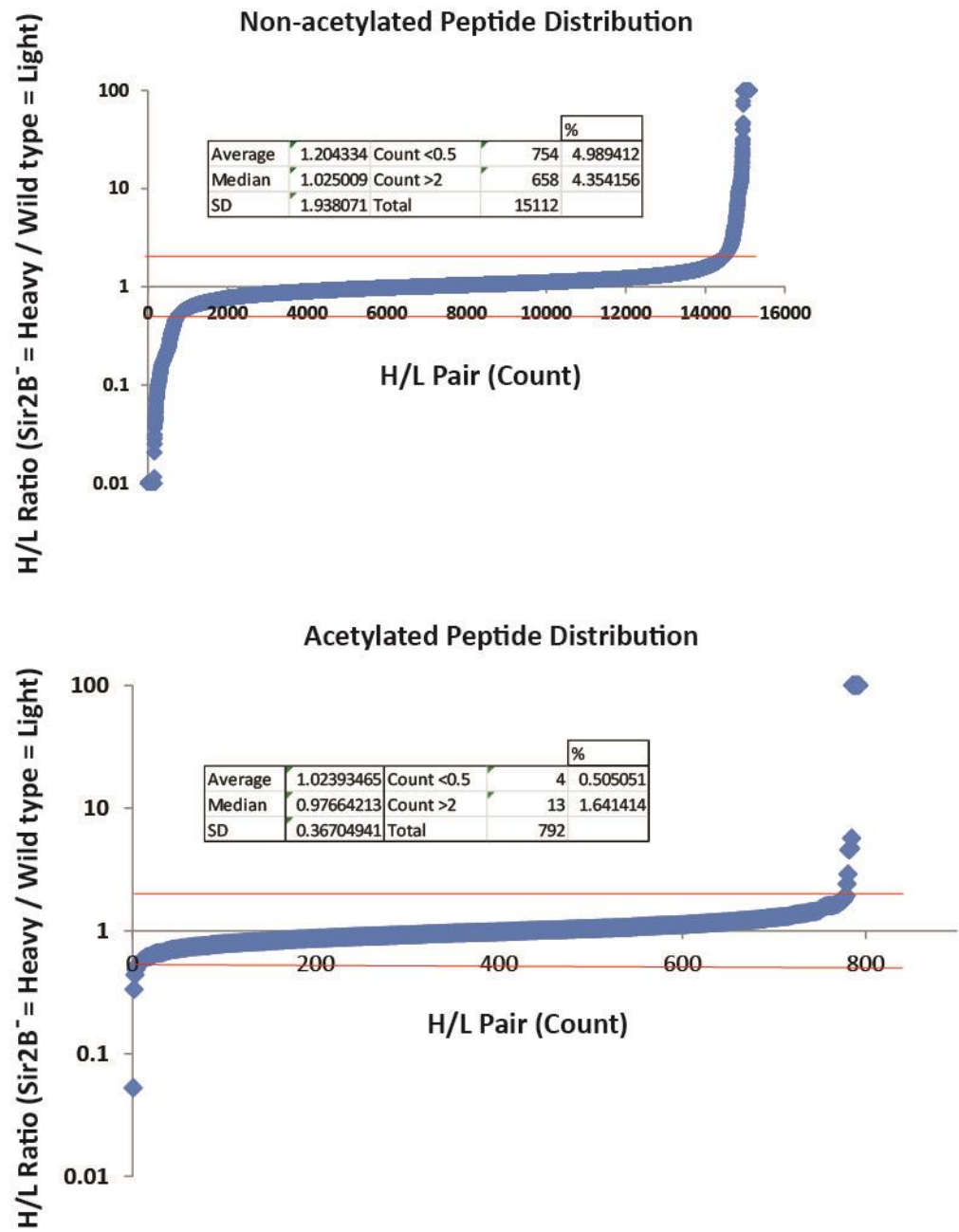
Supplemental Figure 4

Sir2A⁻ SILAC experiment



Supplemental Figure 5

Sir2B⁻ SILAC experiment



Supplemental Figure 6

Acetate Pulse SILAC experiment

