

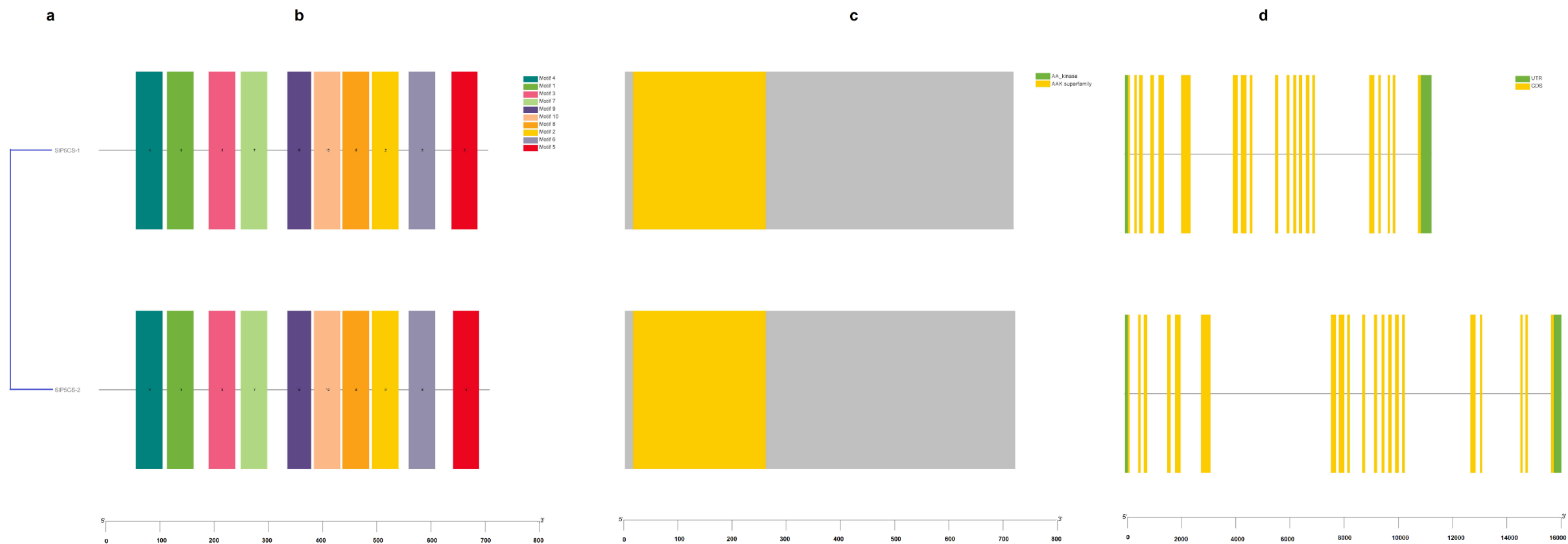


Fig. S1. P5CS proteins. **(a)** Rectangular phylogenetic tree. **(b)** Conserved motifs were predicted using MEME. **(c)** Protein domains. **(d)** Gene structure.

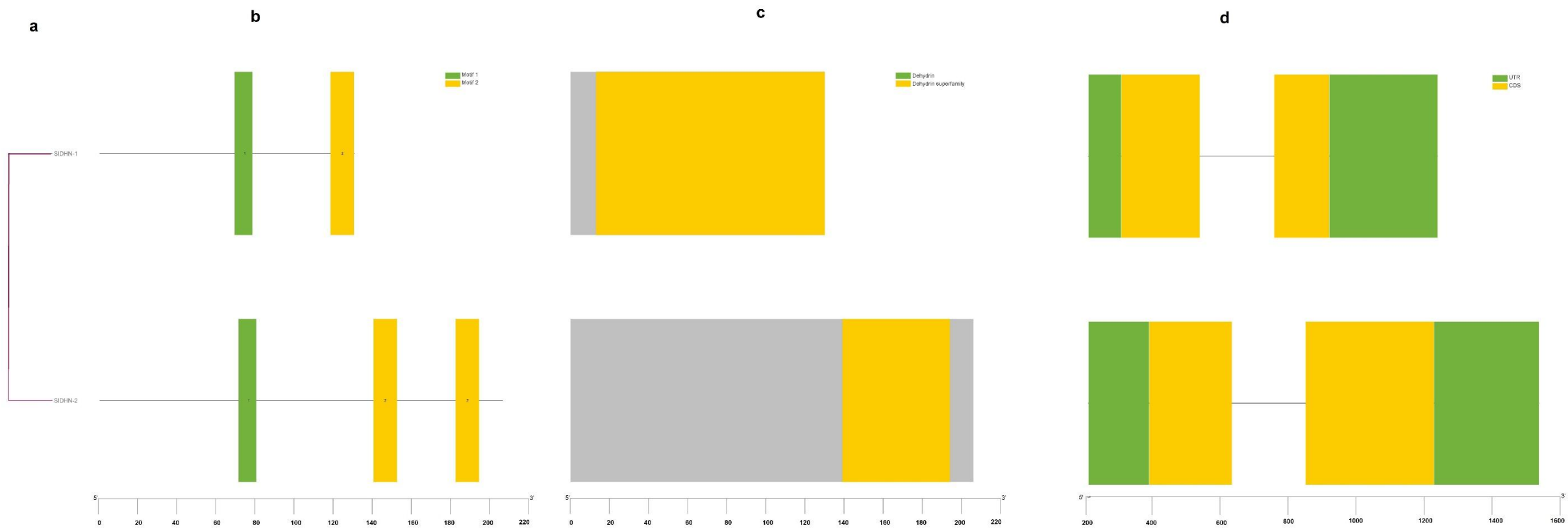


Fig. S2. DHN proteins. **(a)** Rectangular phylogenetic tree. **(b)** Conserved motifs were predicted using MEME. **(c)** Protein domains. **(d)** Gene structure.

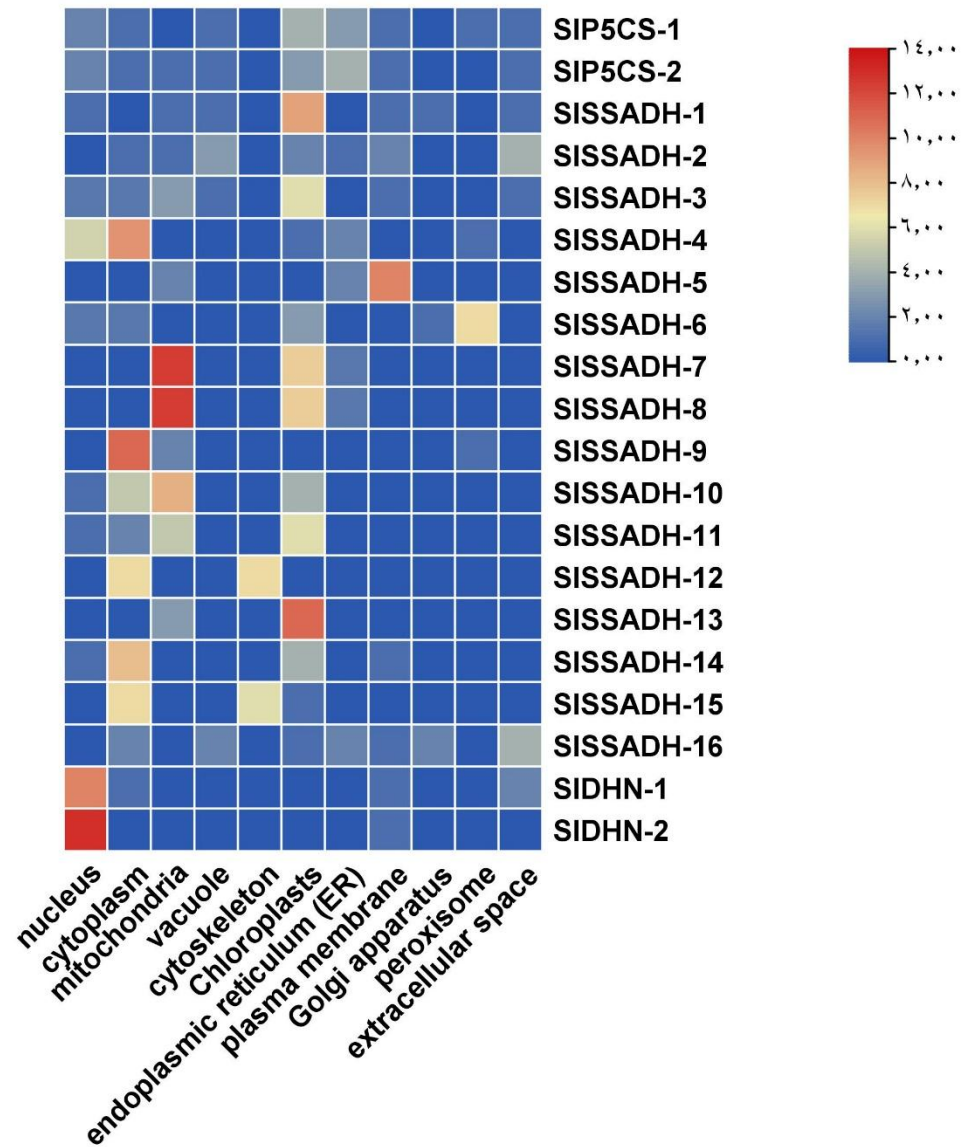
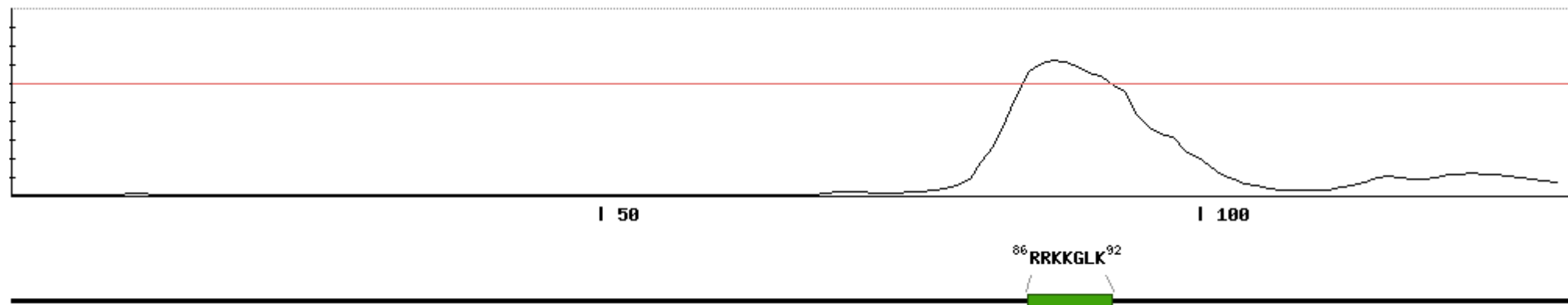
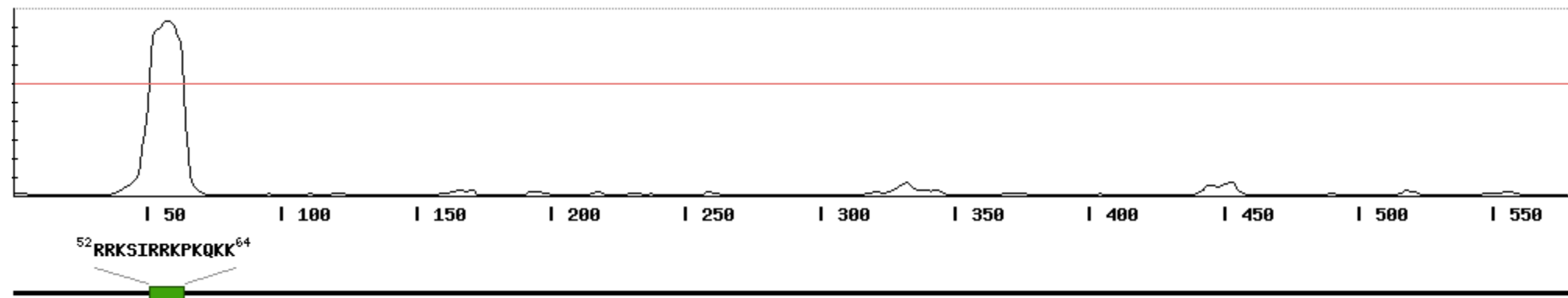


Fig. S3. Heatmap showing P5CS, SSADH and DHN proteins localization prediction in deferent organelle.



SIDHN-1



SISSADH-14

Fig. S4. Nuclear localization signal (NLS) prediction for SIDHN-1 and SISSADH-14 proteins

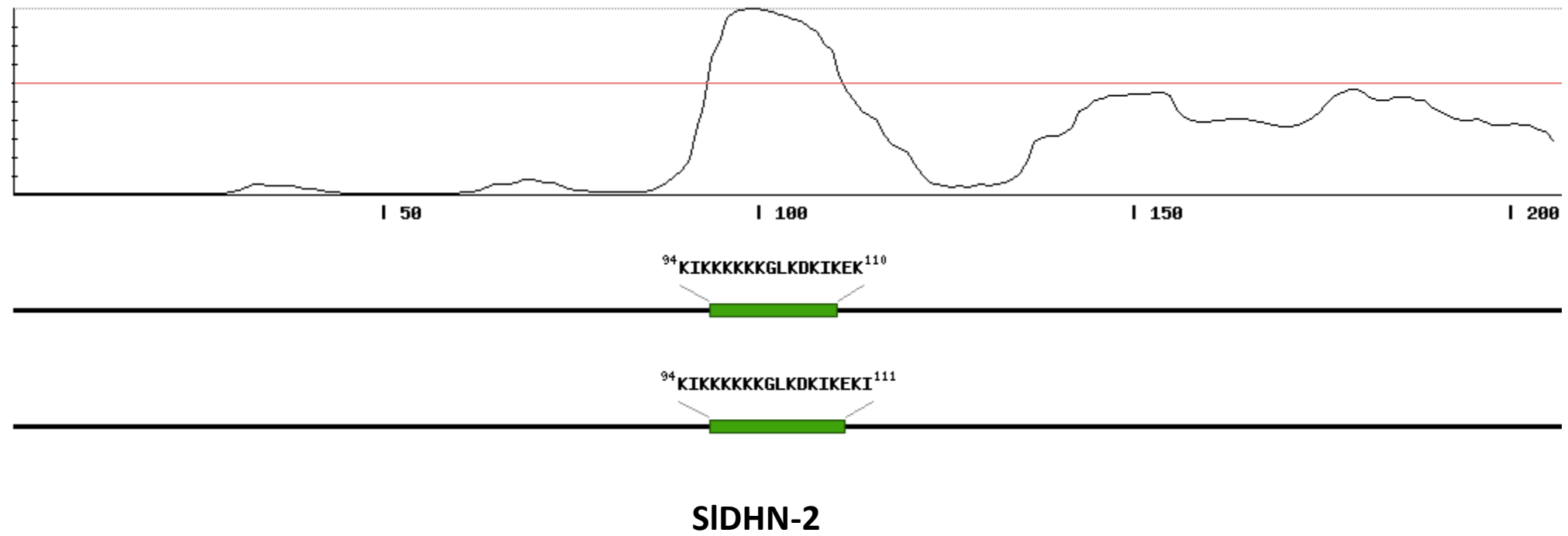


Fig. S5. Nuclear localization signal (NLS) prediction for SIDHN-2 proteins

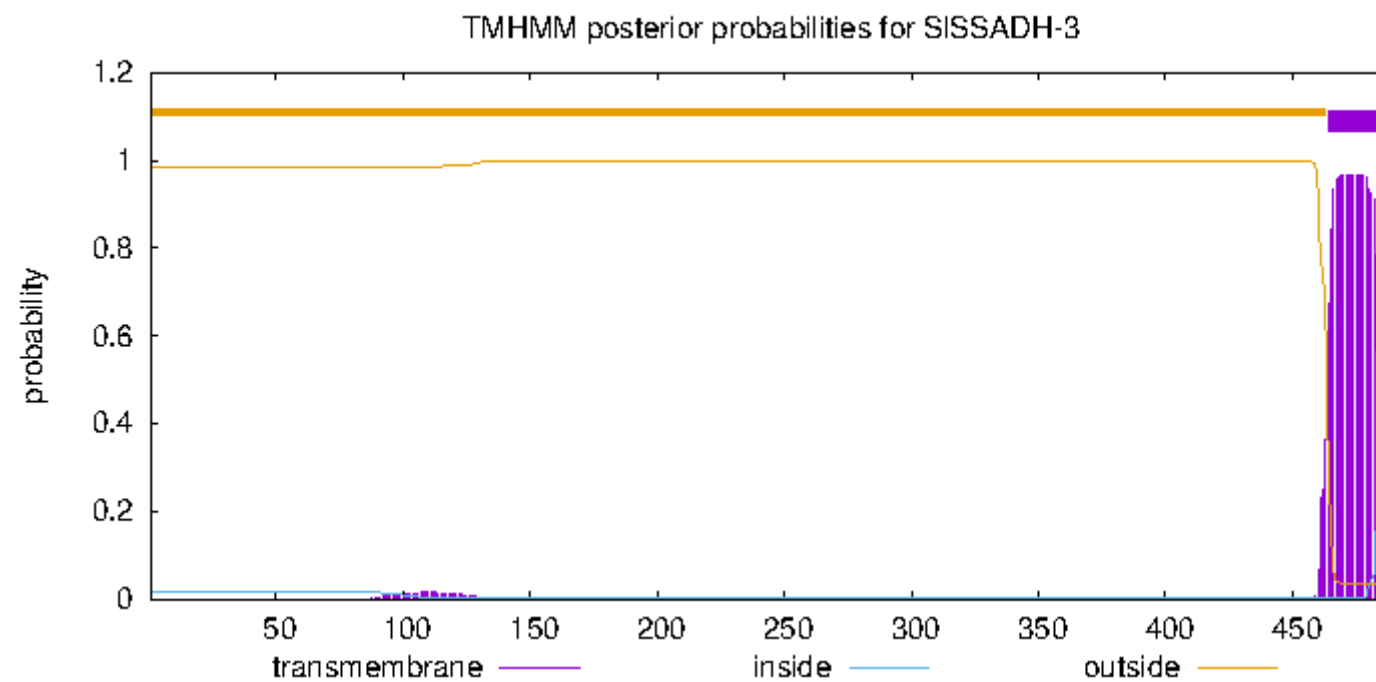


Fig. S6. The transmembrane helical in SISSADH-3

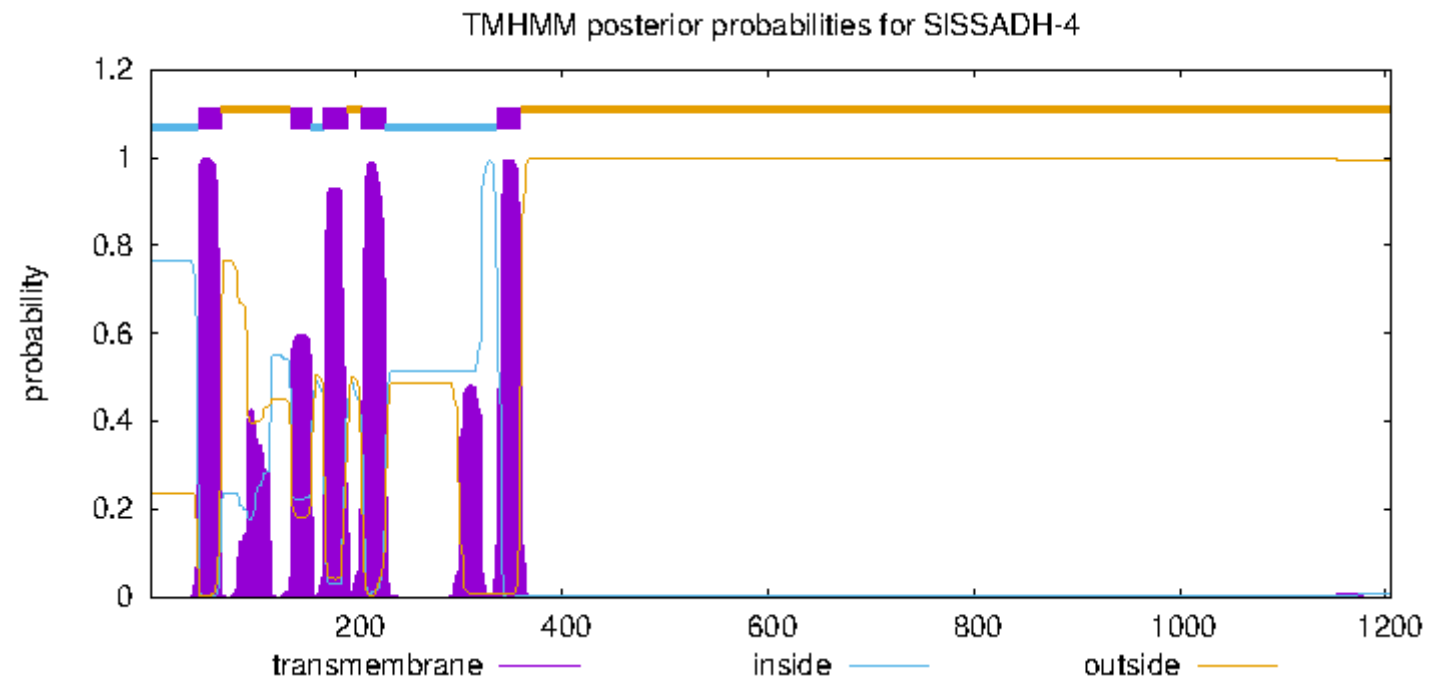


Fig. S7. The transmembrane helical in SISSADH-4

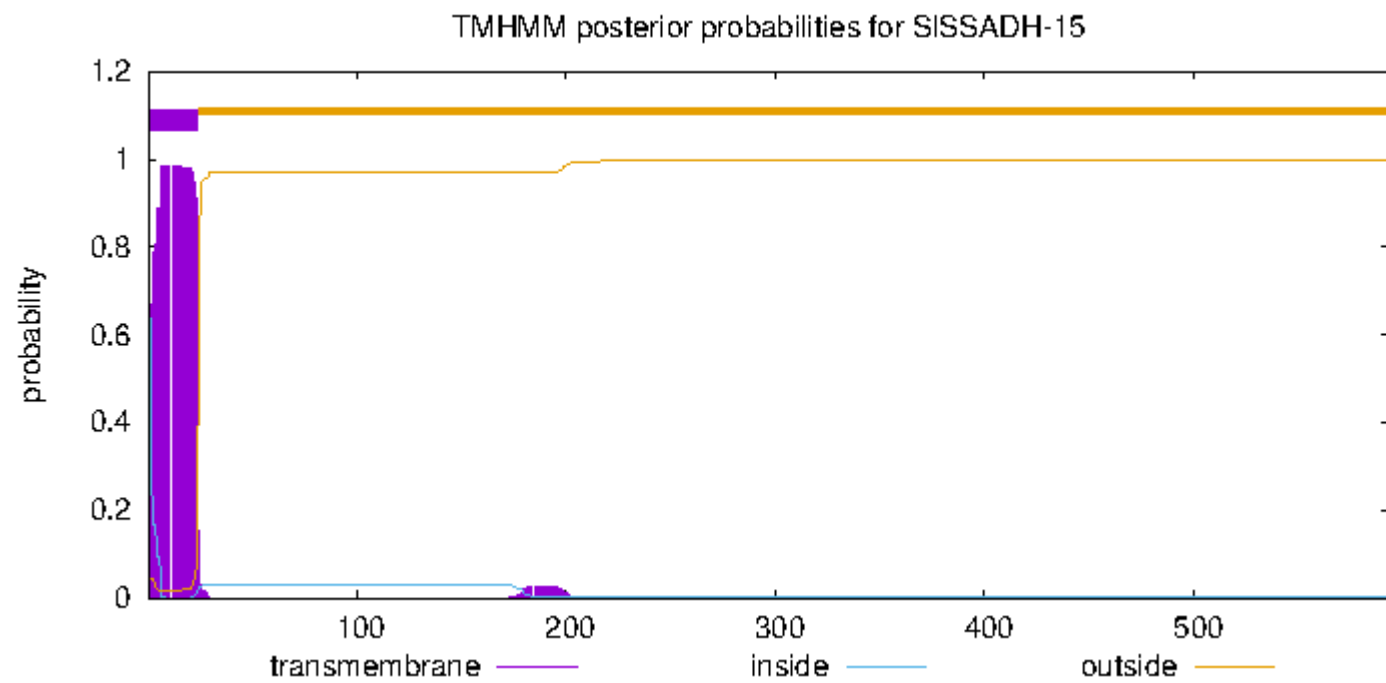
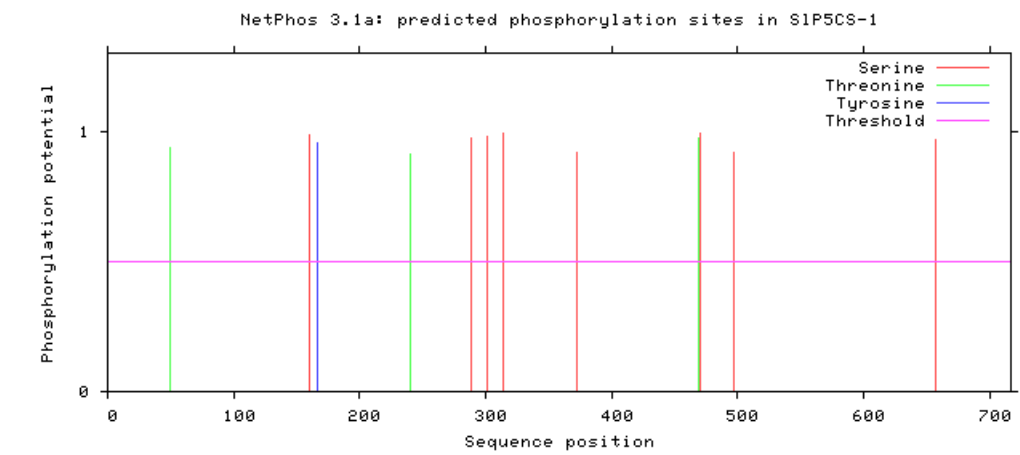
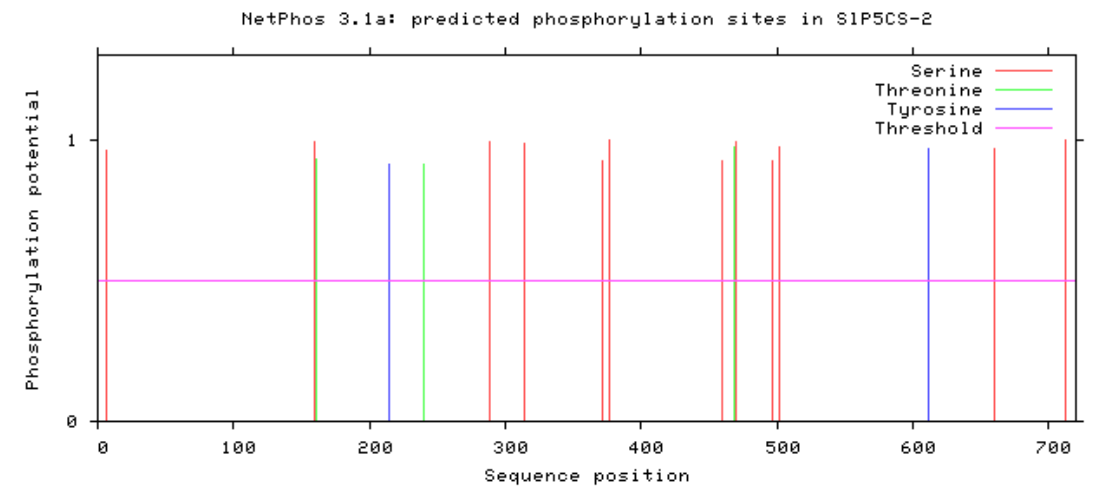


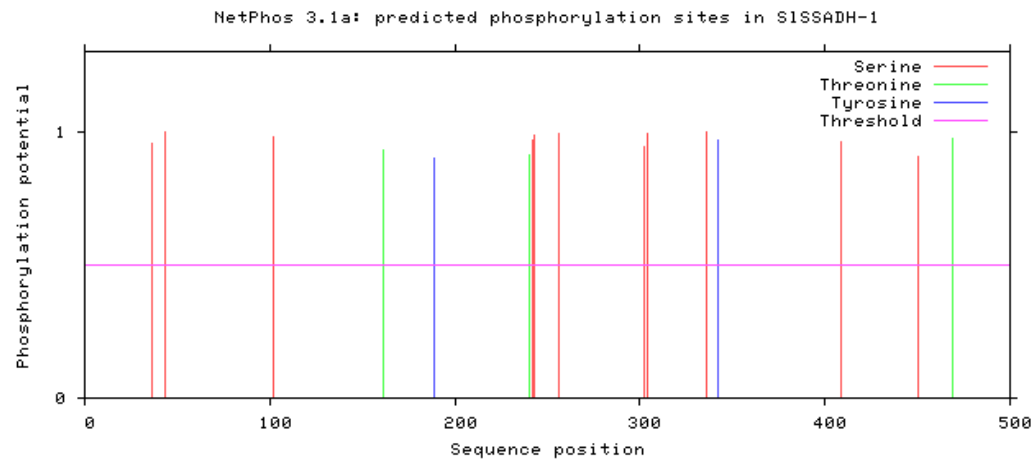
Fig. S8. The transmembrane helical in SISSADH-15



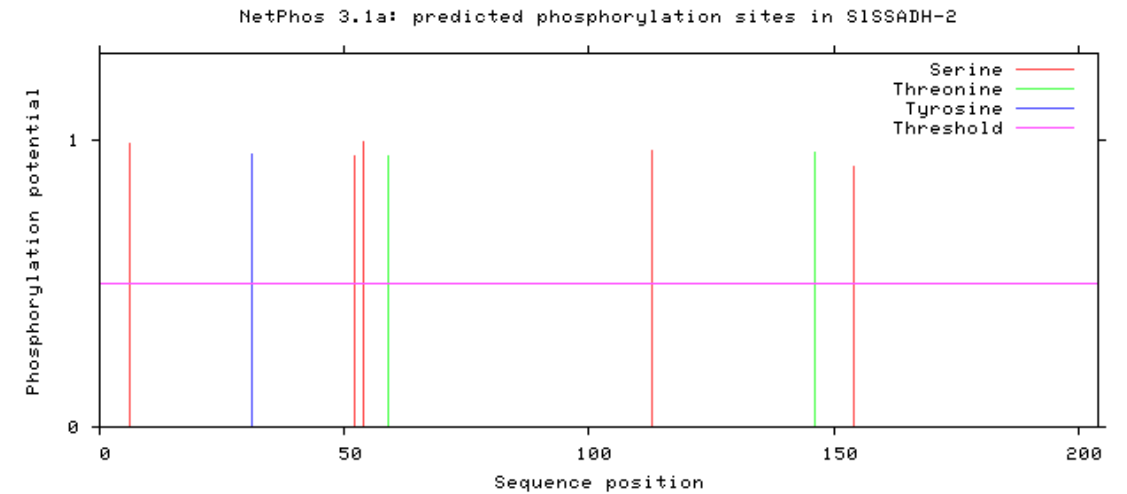
SIP5CS -1



SIP5CS -2

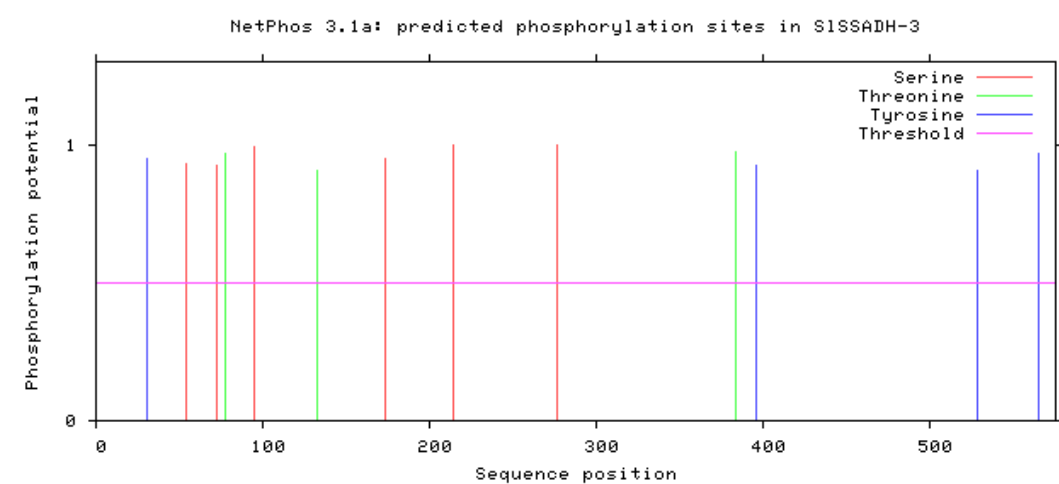


SISSADH-1

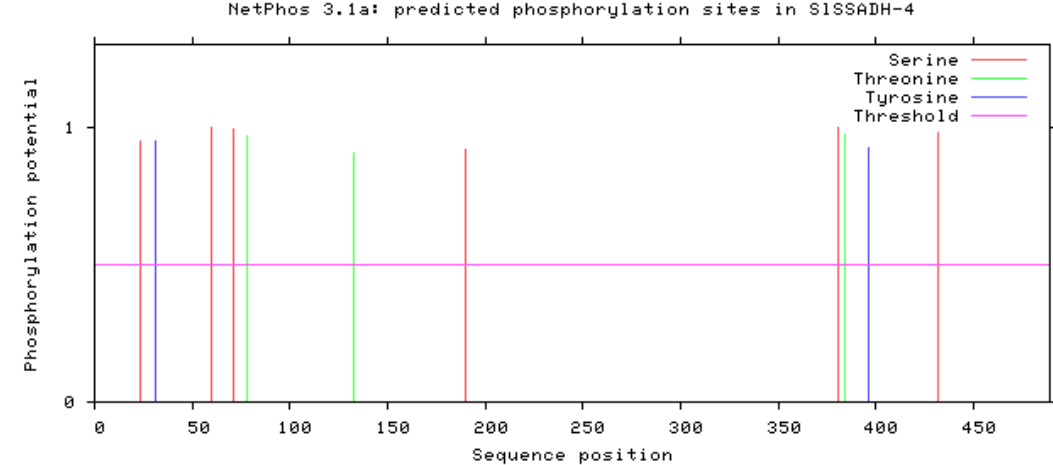


SISSADH-2

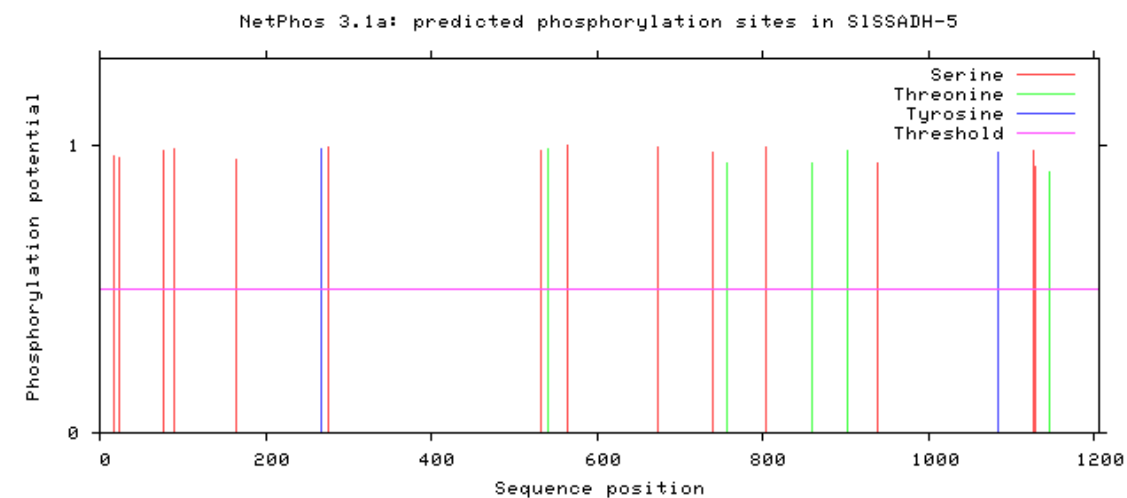
Fig. S9. Proteins phosphorylation with serine, threonine and tyrosine



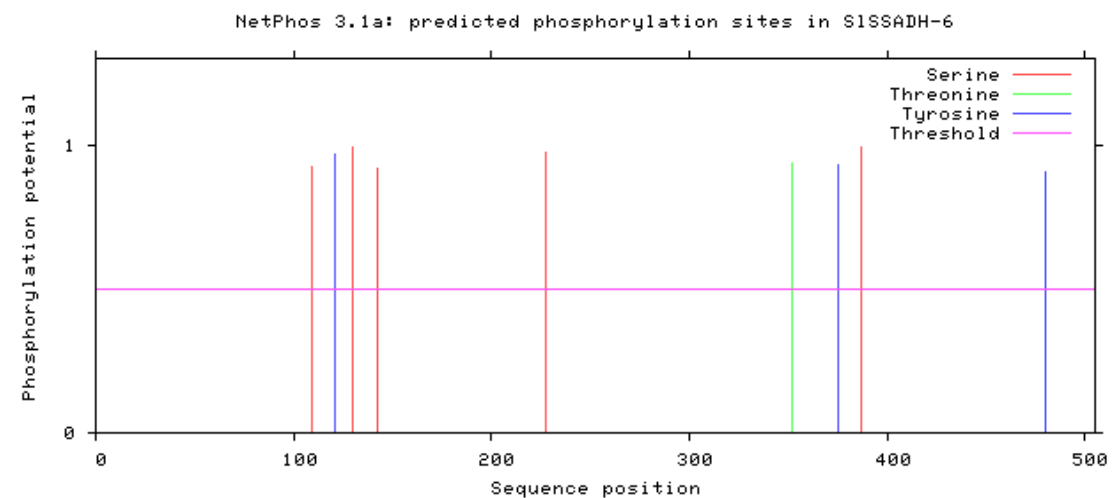
SISSADH-3



SISSADH-4

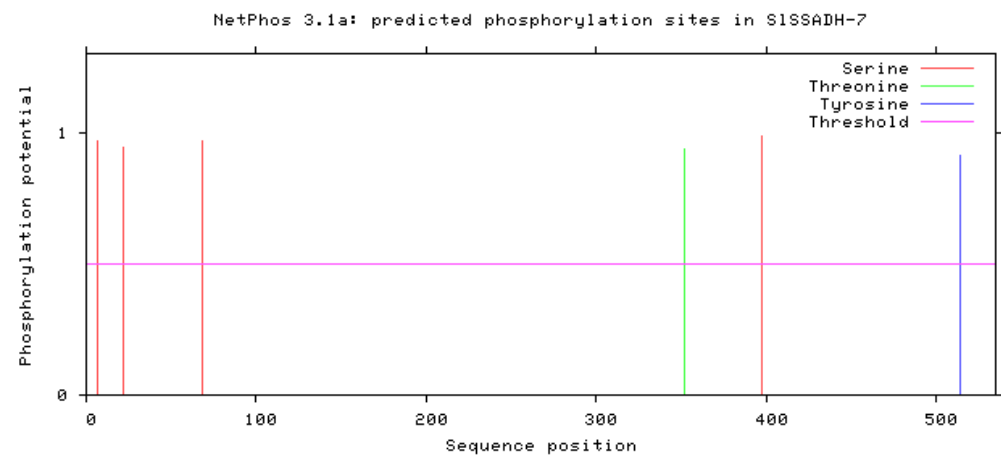


SISSADH-5

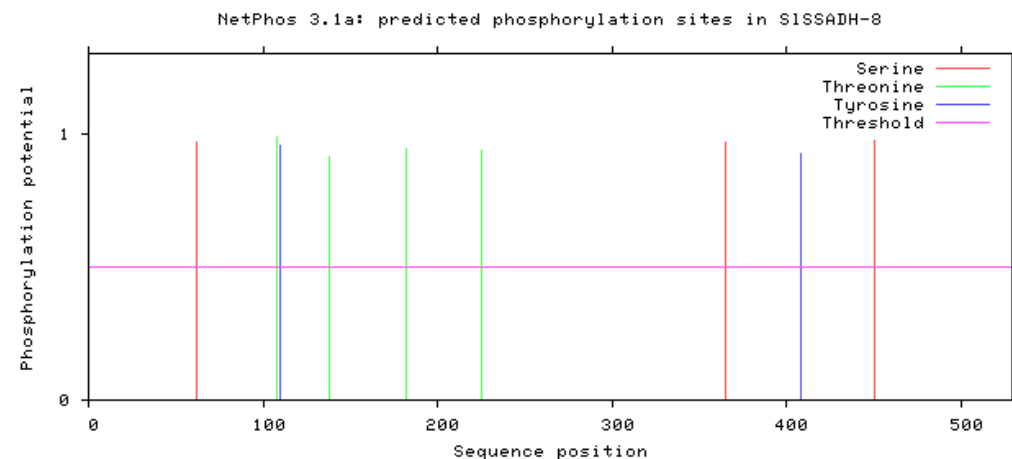


SISSADH-6

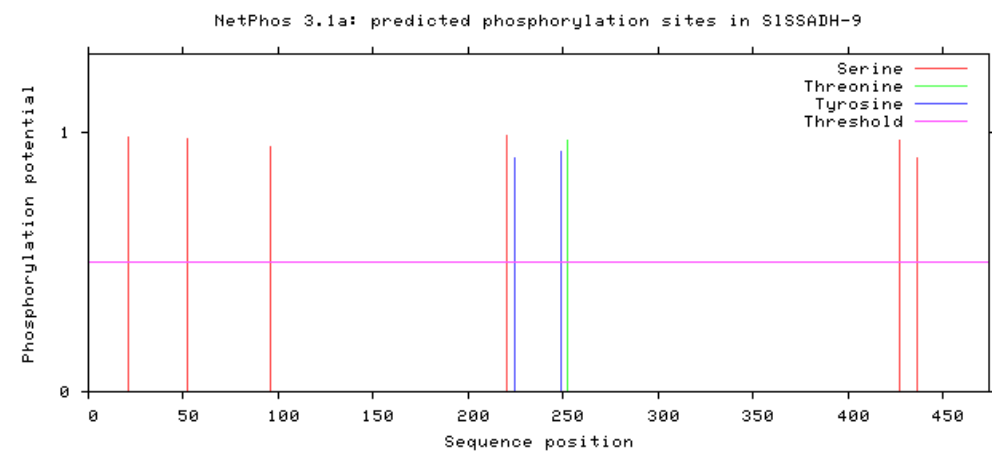
Fig. S10. Proteins phosphorylation with serine, threonine and tyrosine



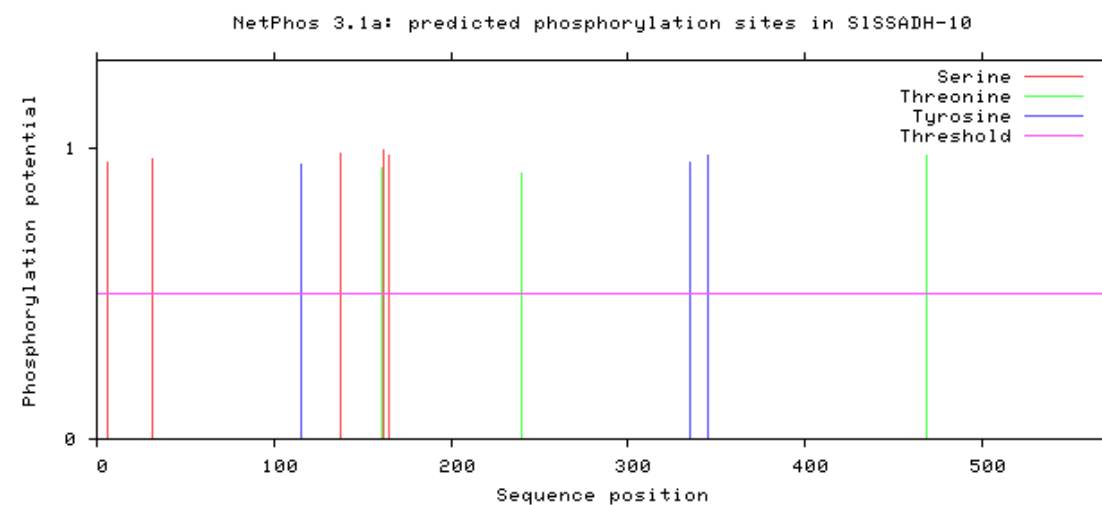
S1SSADH-7



S1SSADH-8

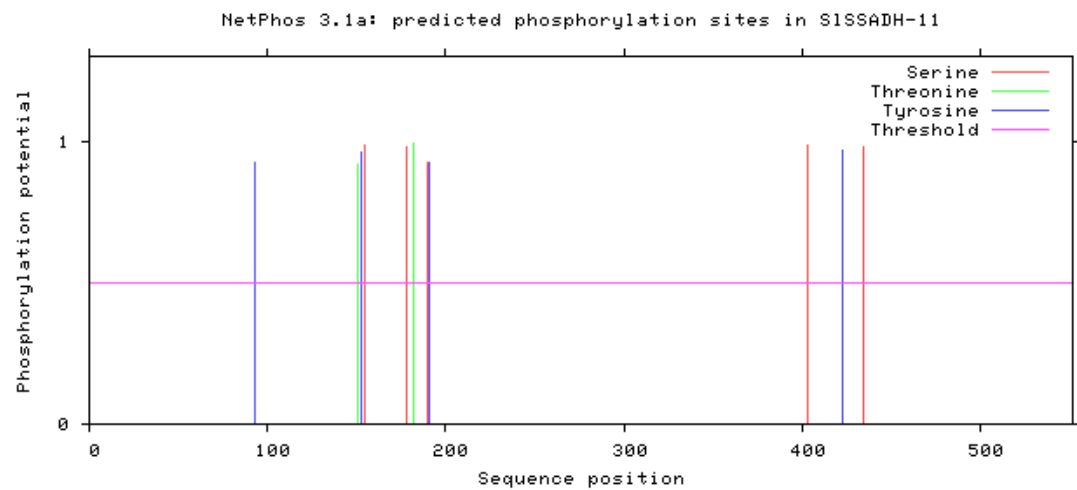


S1SSADH-9

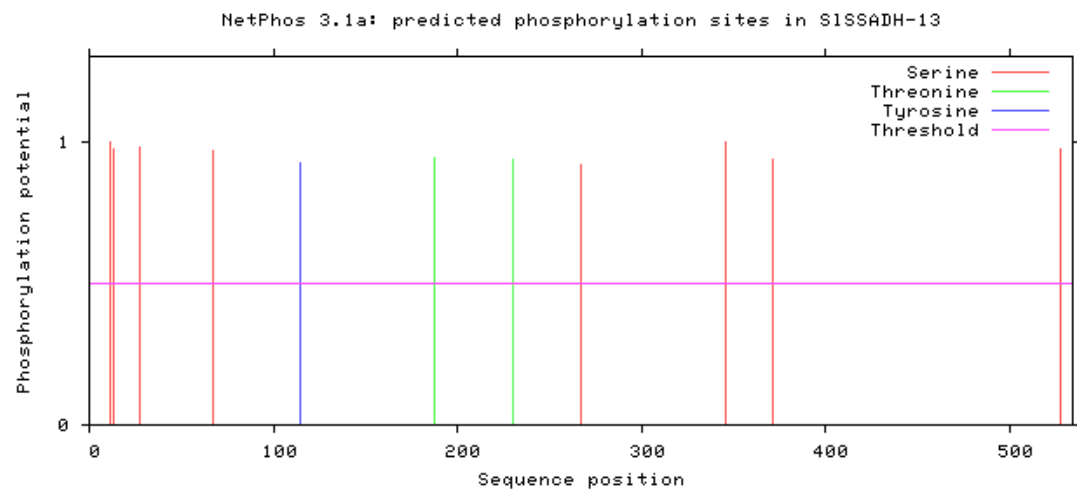


S1SSADH-10

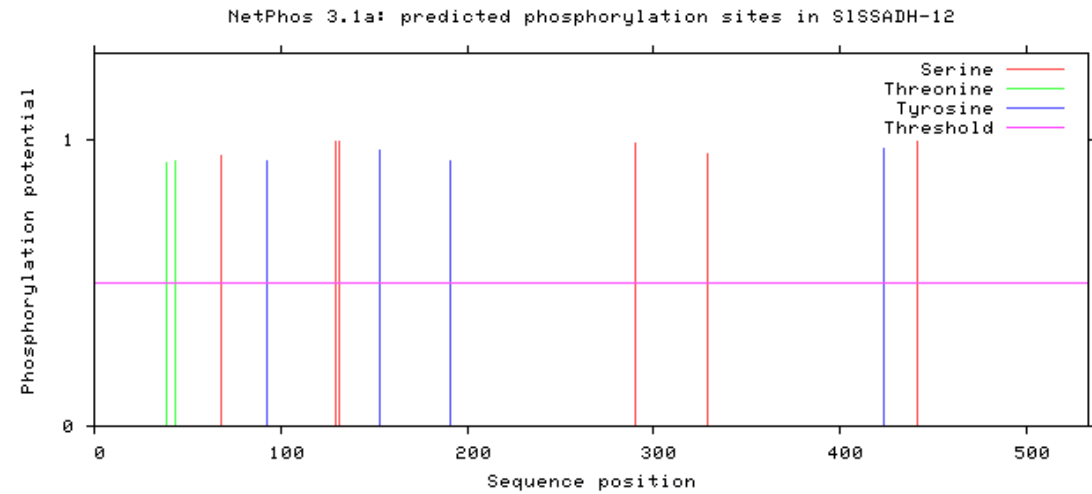
Fig. S11. Proteins phosphorylation with serine, threonine and tyrosine



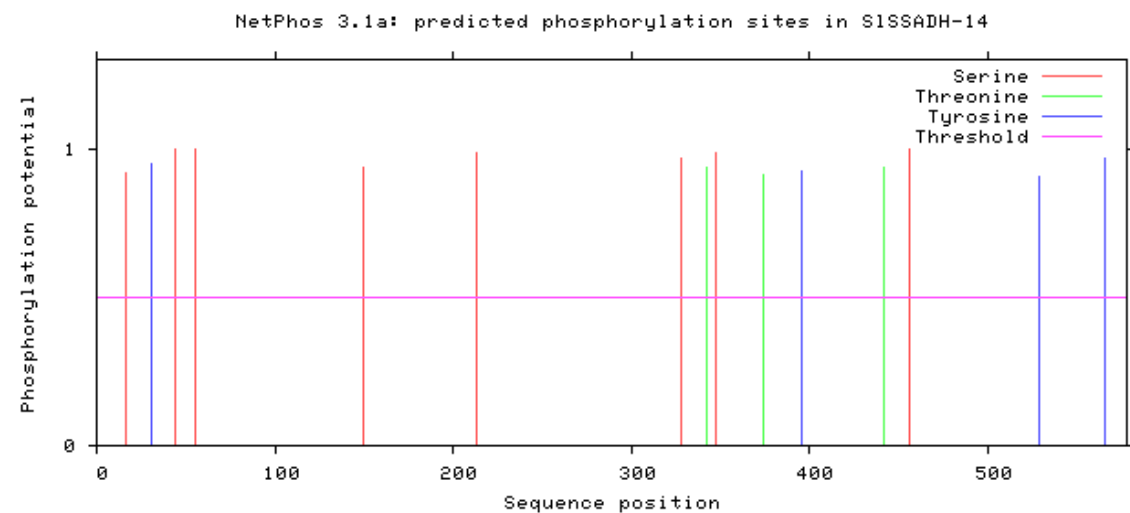
S1SSADH-11



S1SSADH-13

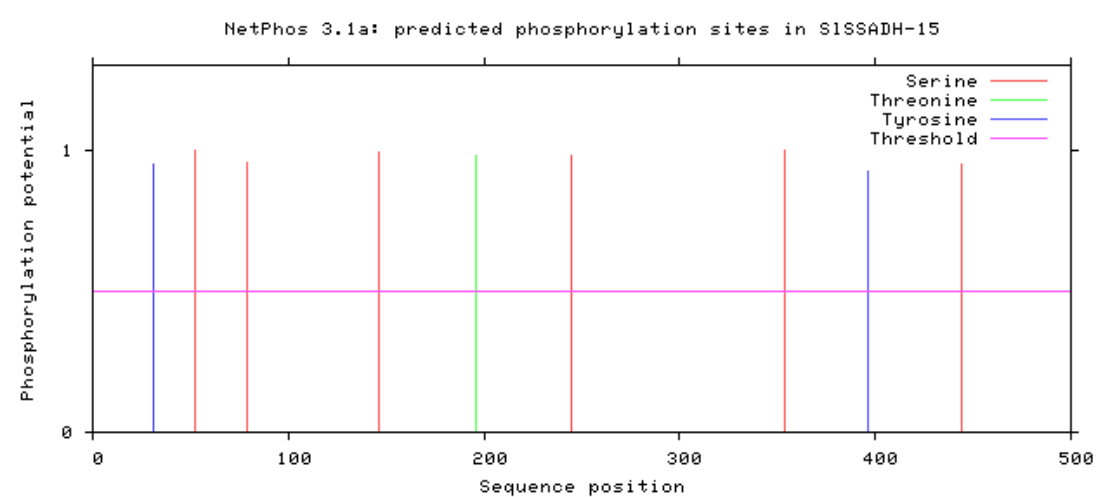


S1SSADH-12

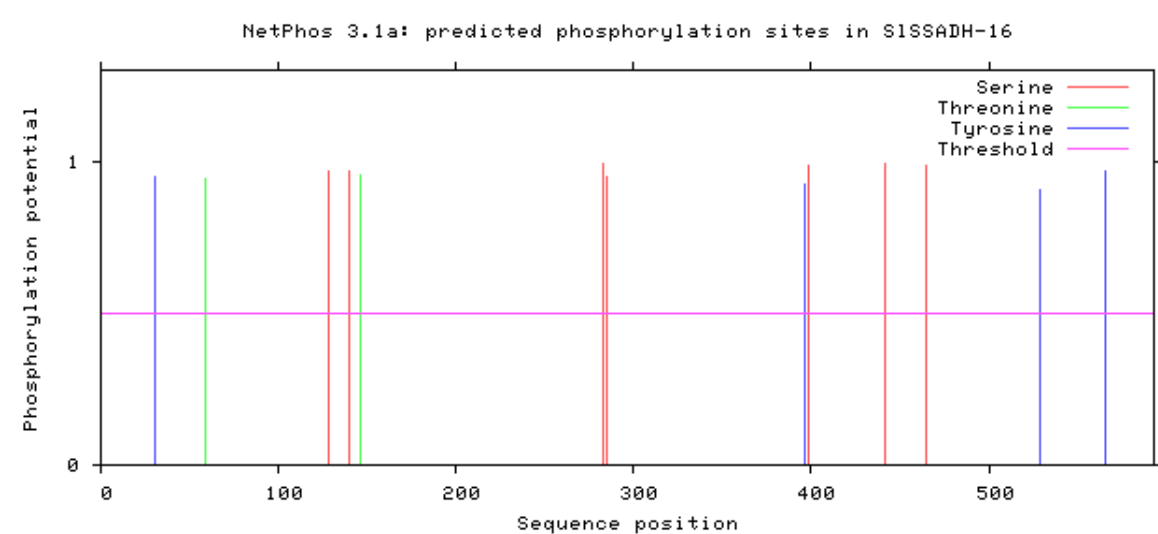


S1SSADH-14

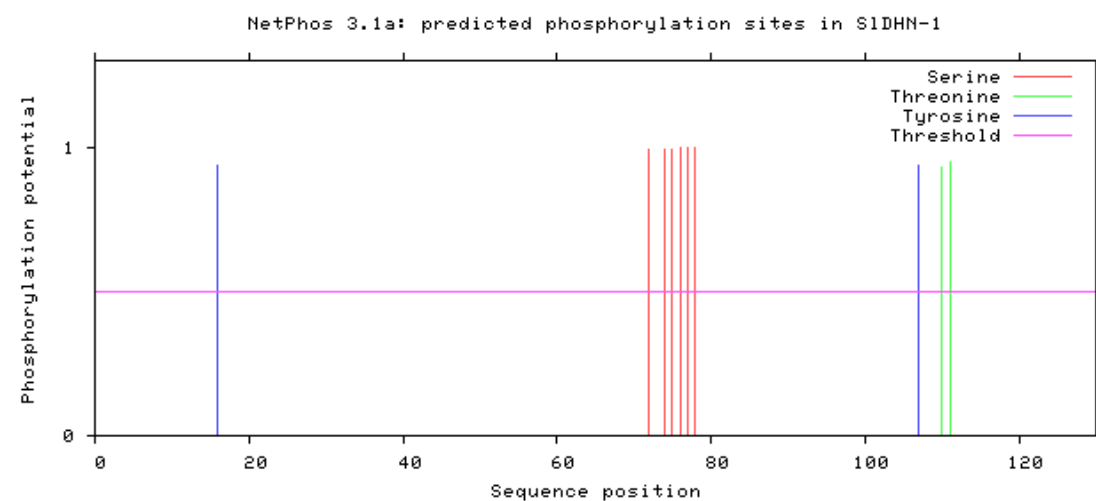
Fig. S12. Proteins phosphorylation with serine, threonine and tyrosine



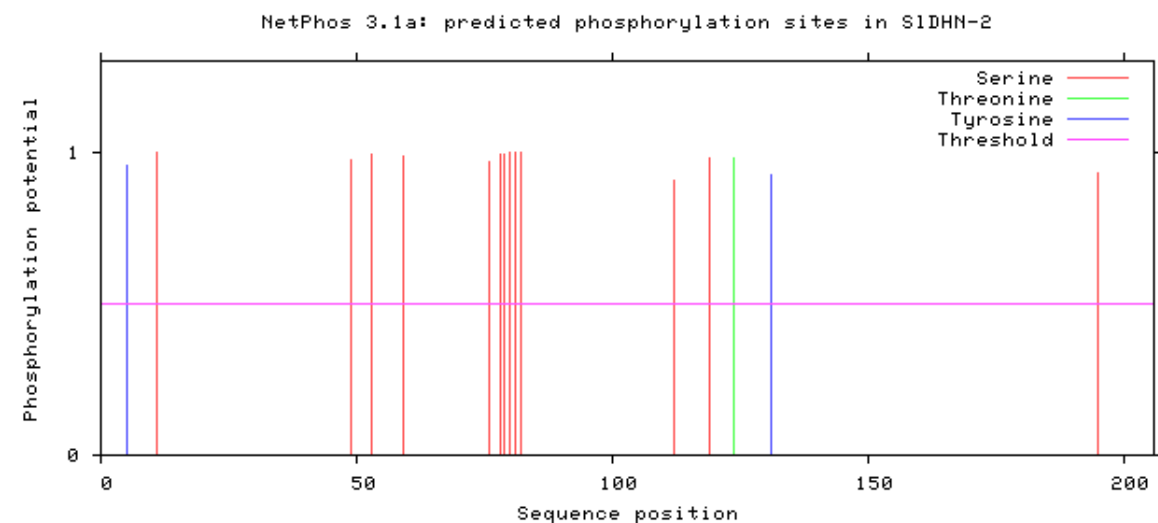
S1SSADH-15



S1SSADH-16



S1DHN-1

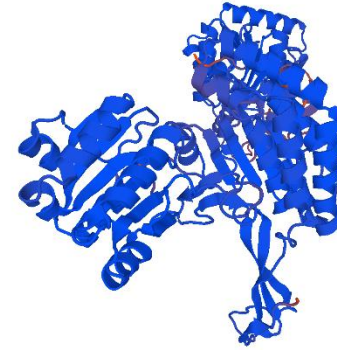


S1DHN-2

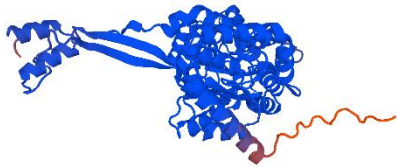
Fig. S13. Proteins phosphorylation with serine, threonine and tyrosine



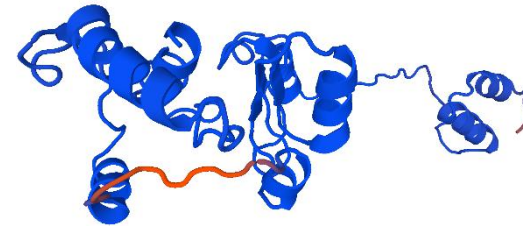
SIP5CS -1



SIP5CS -2

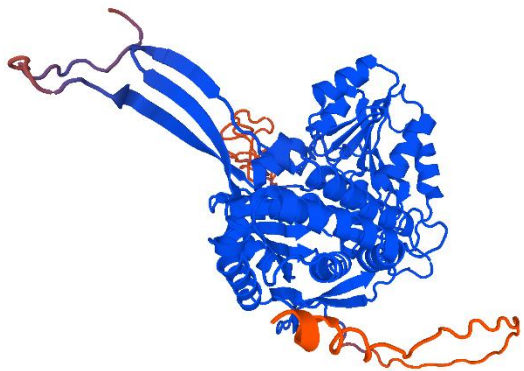


SISSADH-1

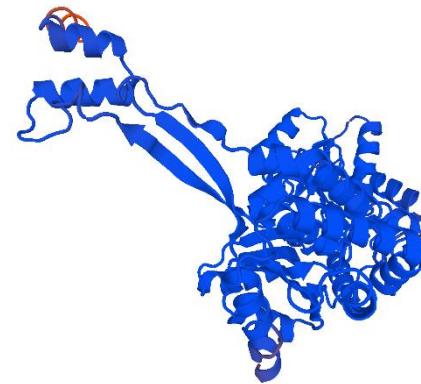


SISSADH-2

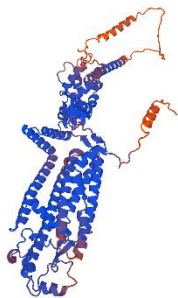
Fig. S14. Proteins modeled with swiss-model



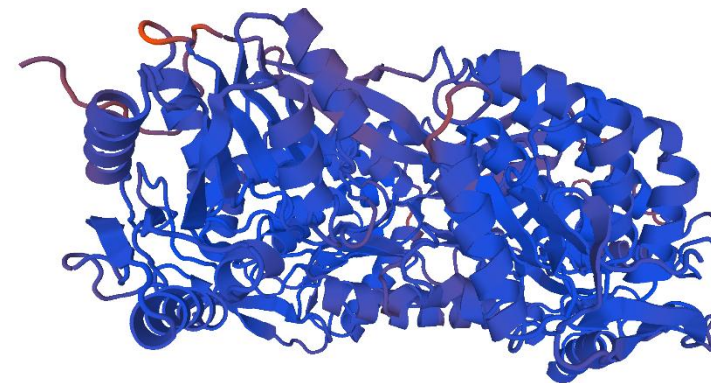
SISSADH-3



SISSADH-4

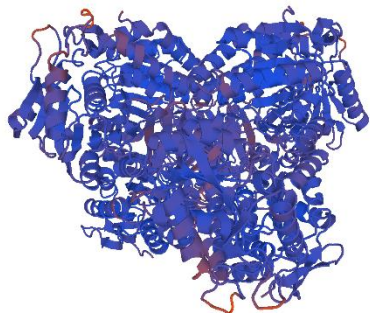


SISSADH-5

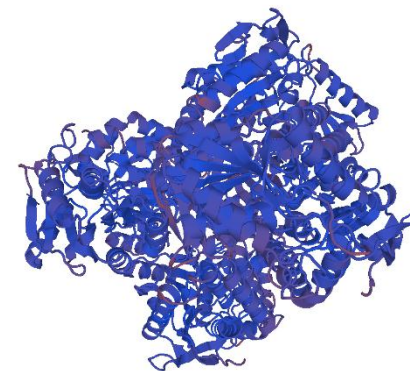


SISSADH-6

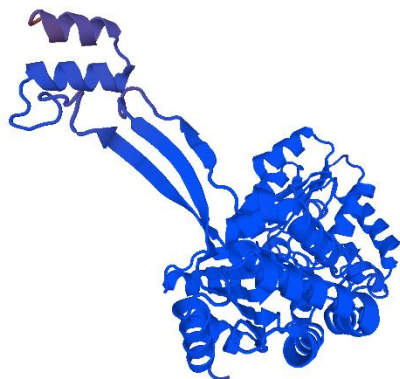
Fig. S15. Proteins modeled with swiss-model



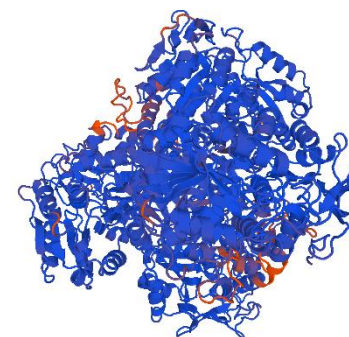
SISSADH-7



SISSADH-8

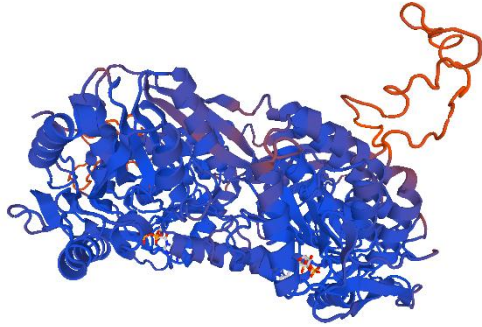


SISSADH-9

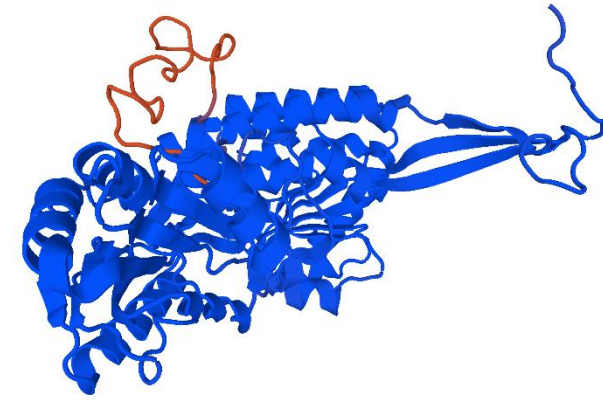


SISSADH-10

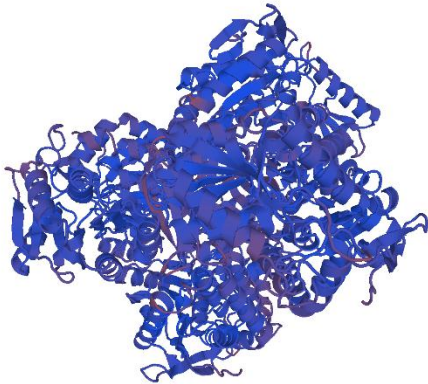
Fig. S16. Proteins modeled with swiss-model



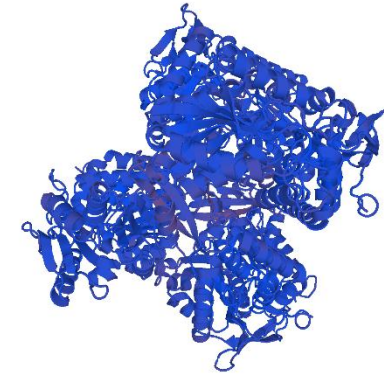
SISSADH-11



SISSADH-12

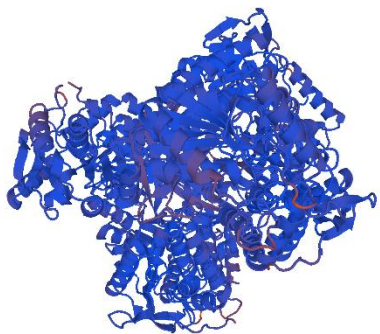


SISSADH-13



SISSADH-14

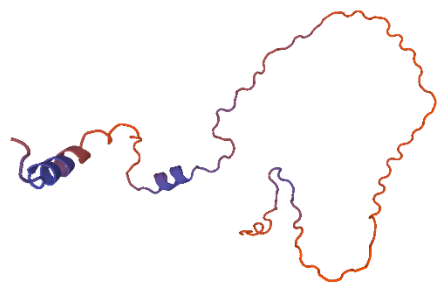
Fig. S17. Proteins modeled with swiss-model



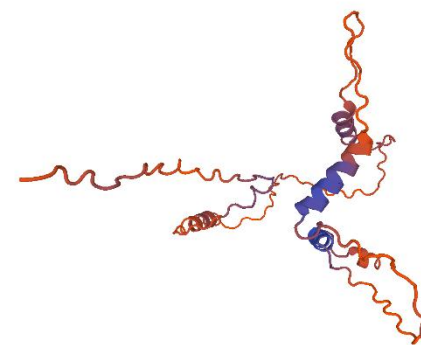
SISSADH-15



SISSADH-16



SIDHN-1



SIDHN-2

Fig. S18. Proteins modeled with swiss-model

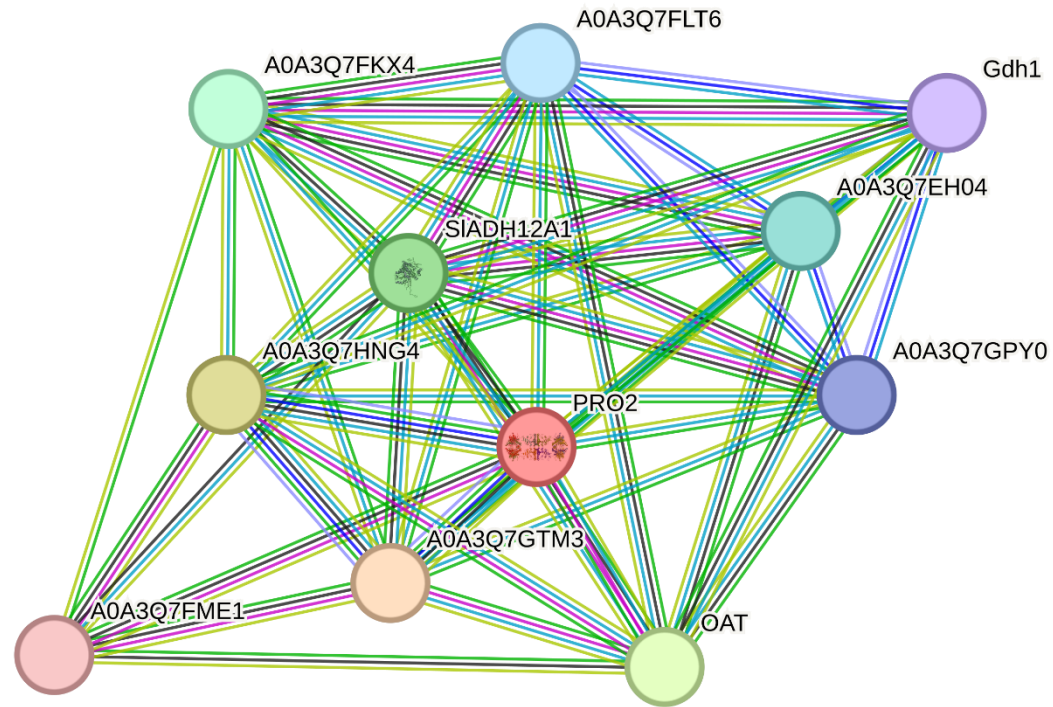


Fig. S19. Protein-protein interaction (PPI) network of SLP5CS clusters

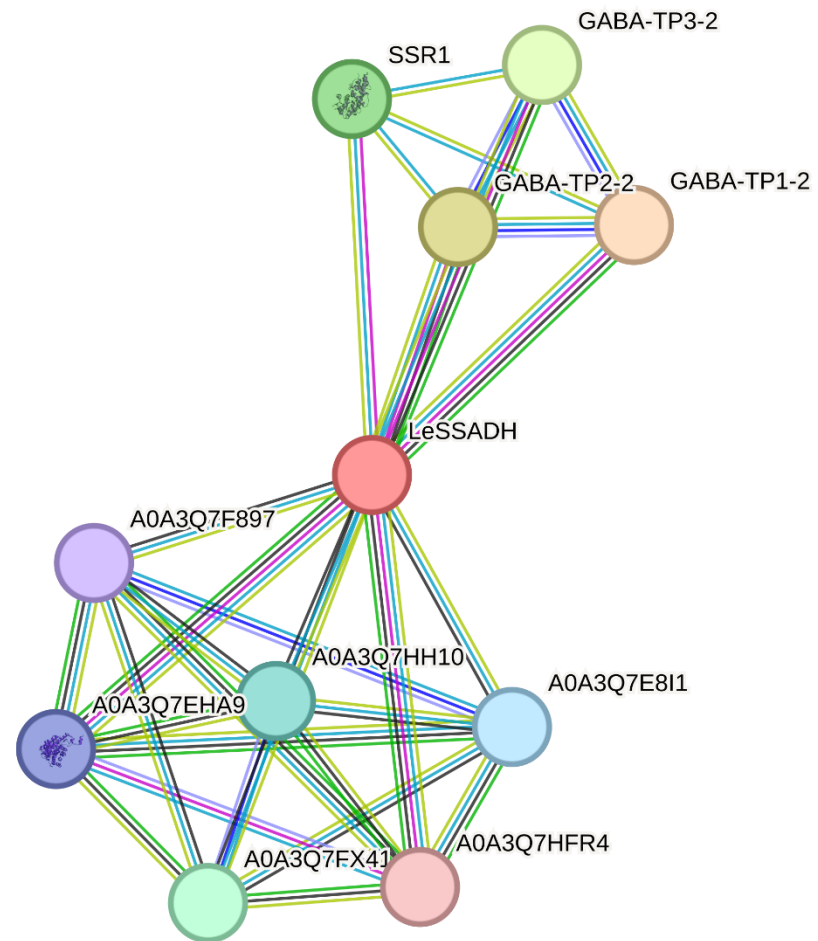


Fig. S20. Protein-protein interaction (PPI) network of SISSADH clusters

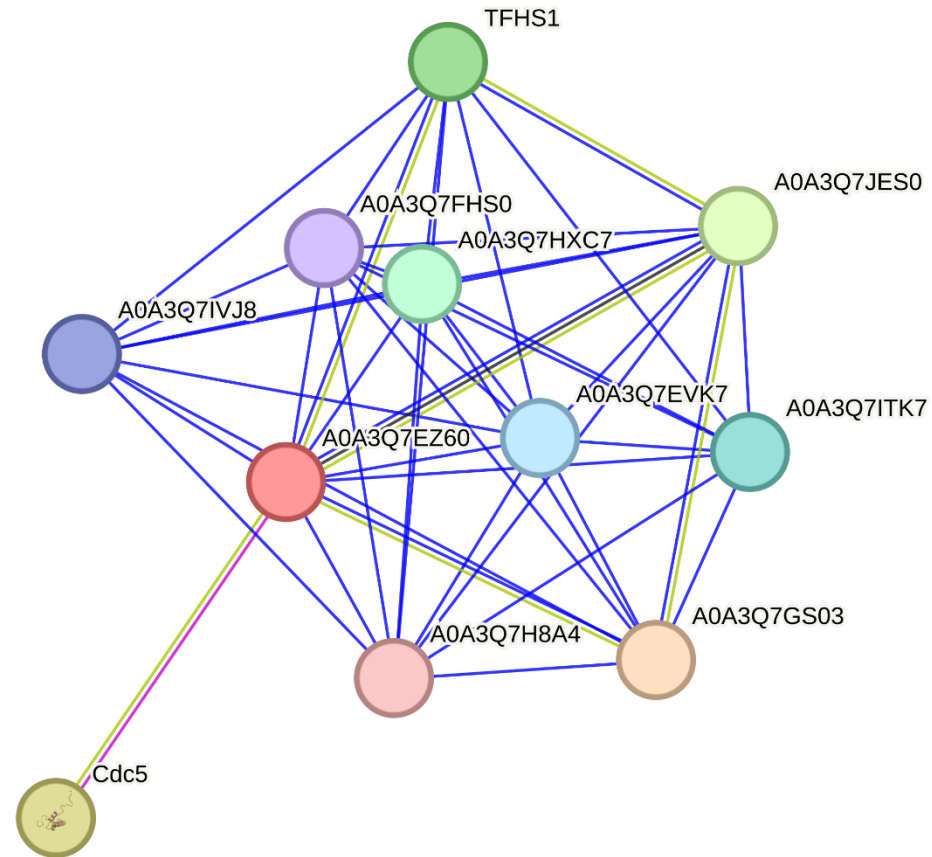


Fig. S21. Protein-protein interaction (PPI) network of Dehydrin clusters

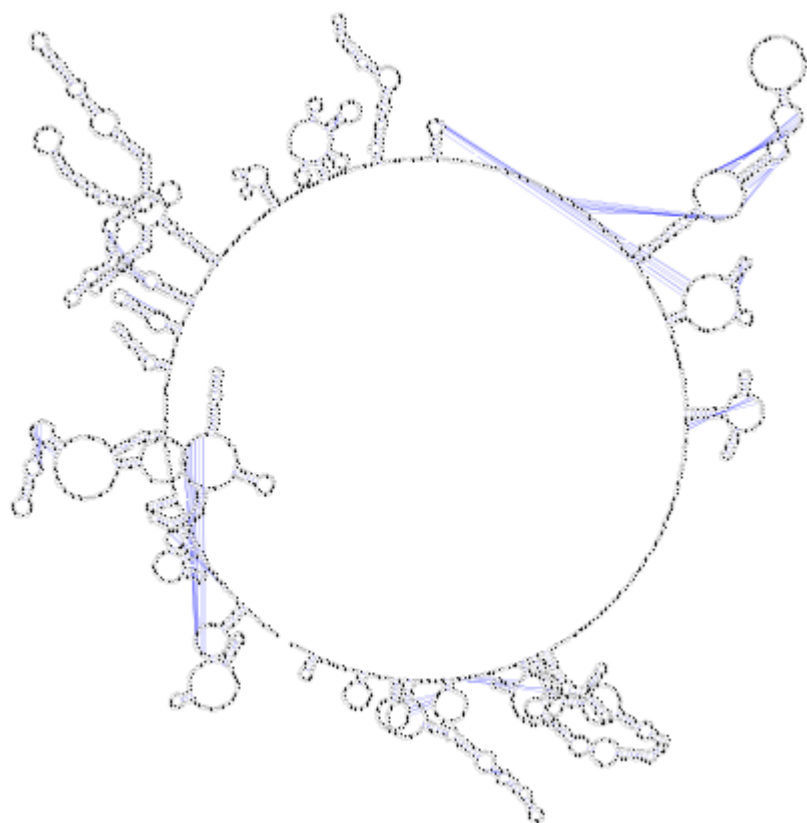


Fig. S22. Predicting RNA secondary structures of SLP5CS-1

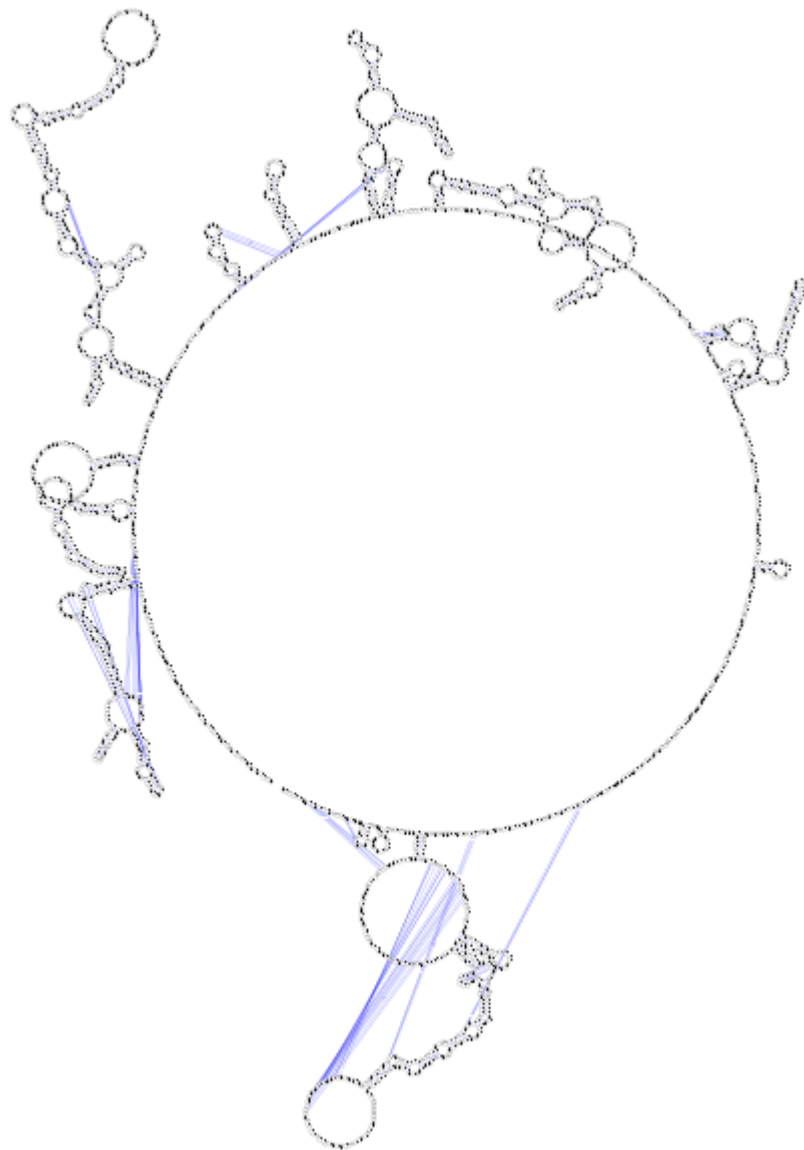


Fig. S23. Predicting RNA secondary structures of SIP5CS-2

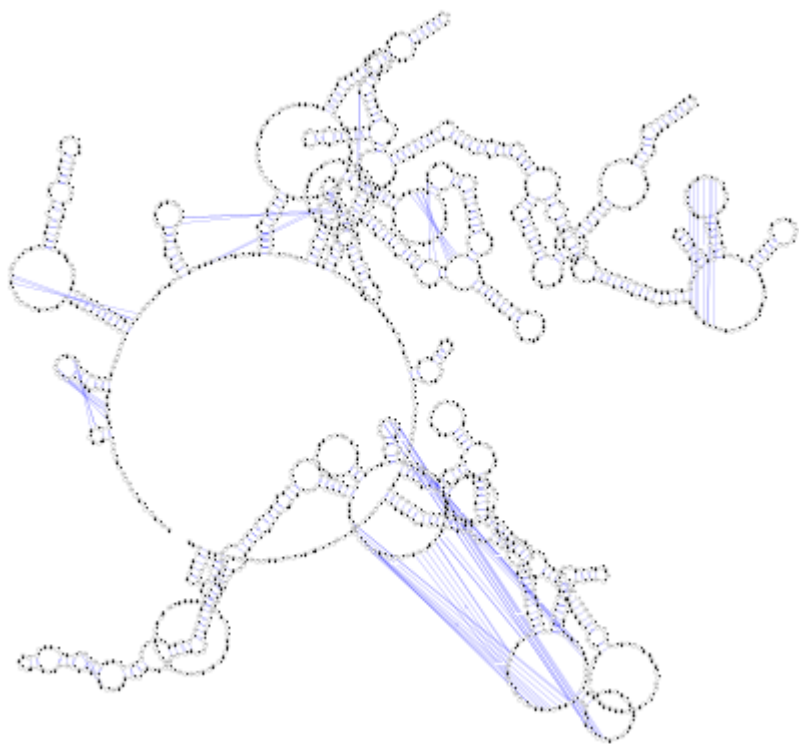


Fig. S24. Predicting RNA secondary structures of SSSADH-3

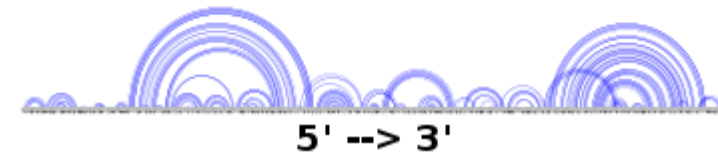
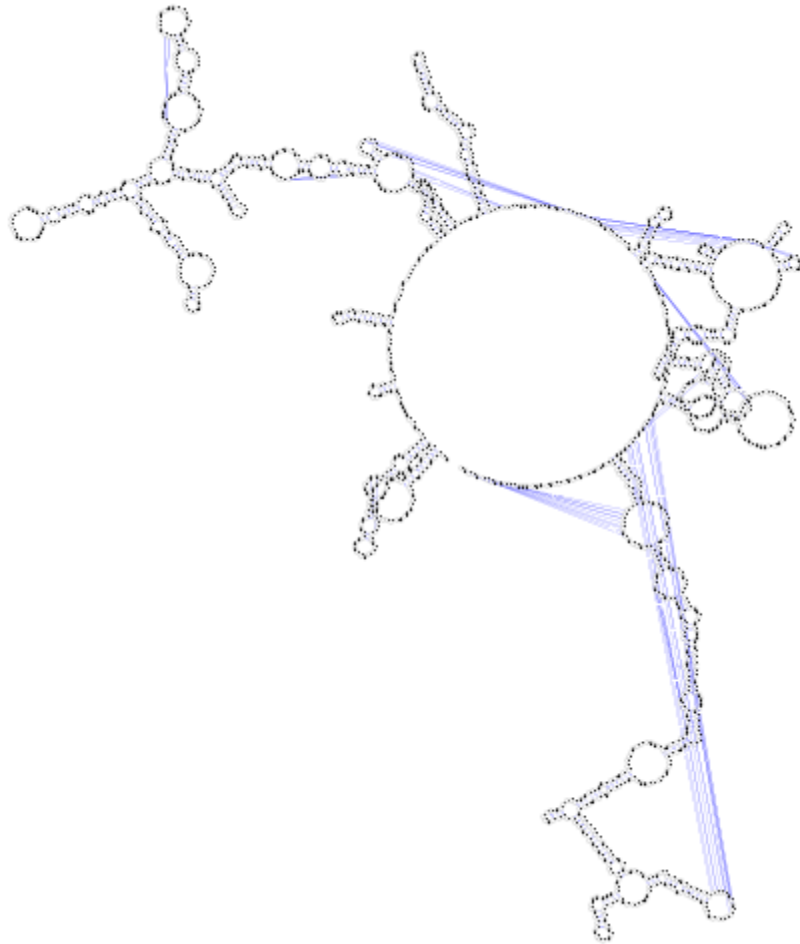


Fig. S25. Predicting RNA secondary structures of SISSADH-4

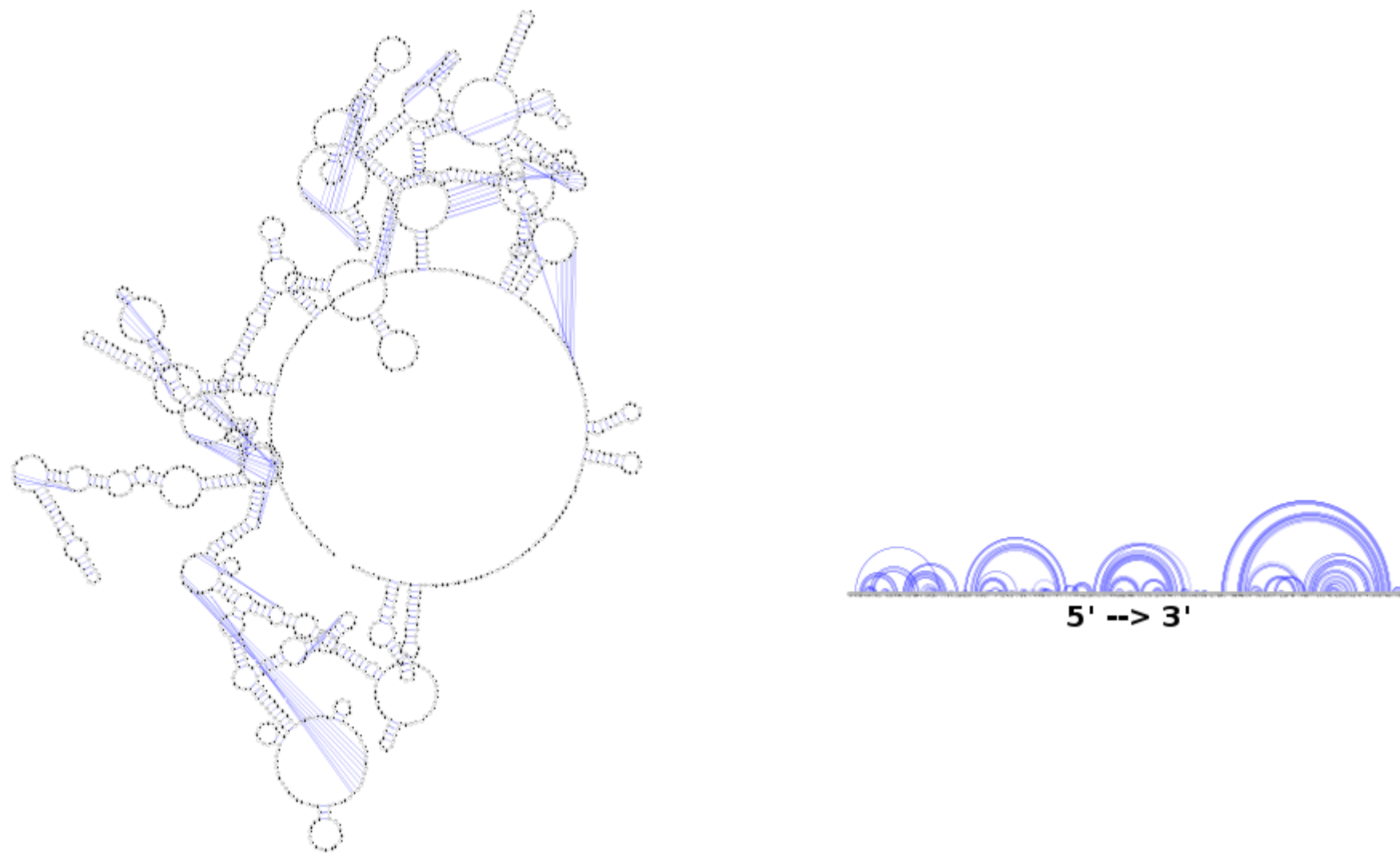


Fig. S26. Predicting RNA secondary structures of SISSADH-10

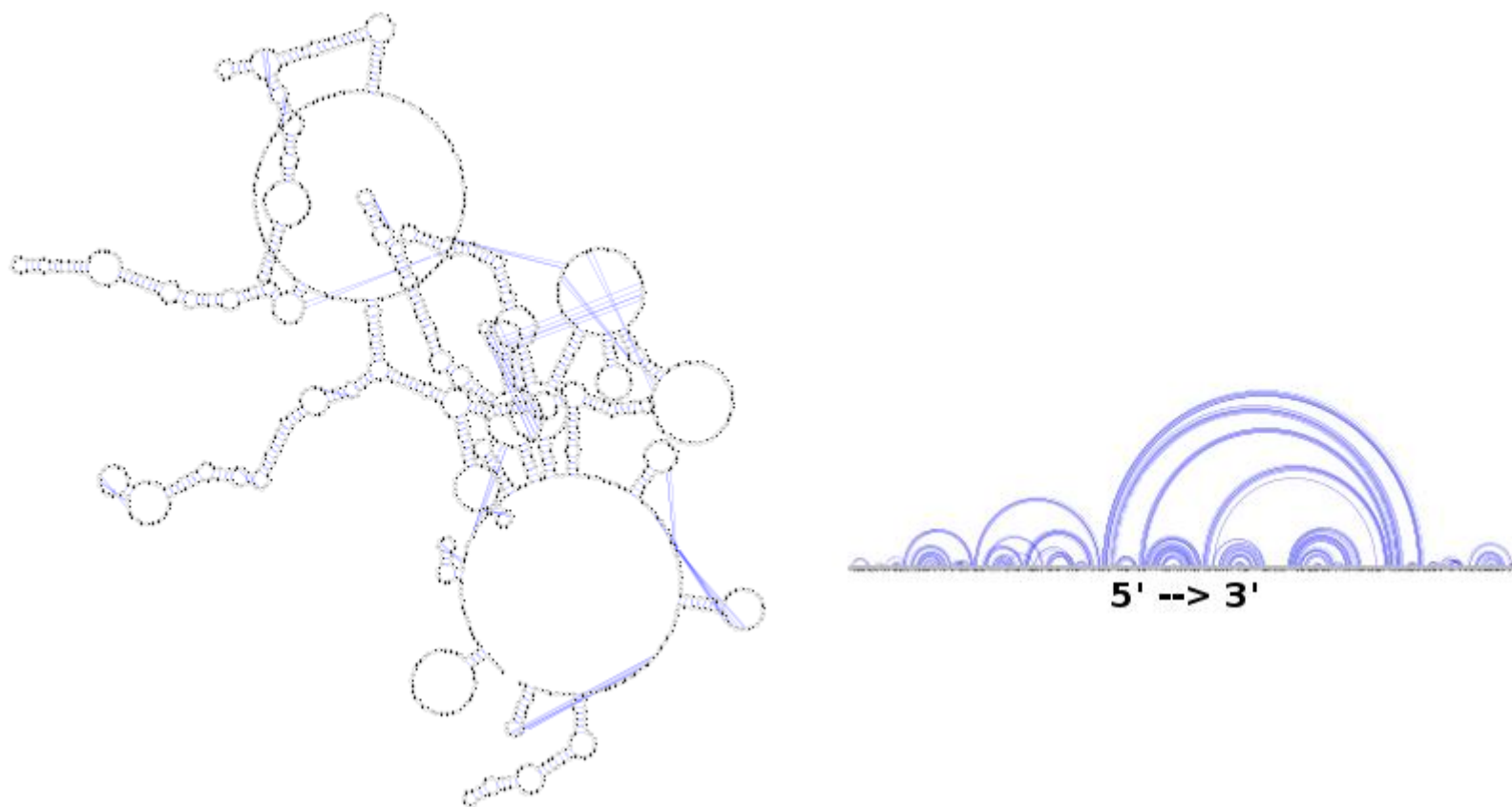


Fig. S27. Predicting RNA secondary structures of SISSADH-15

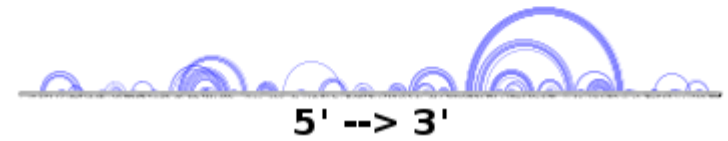
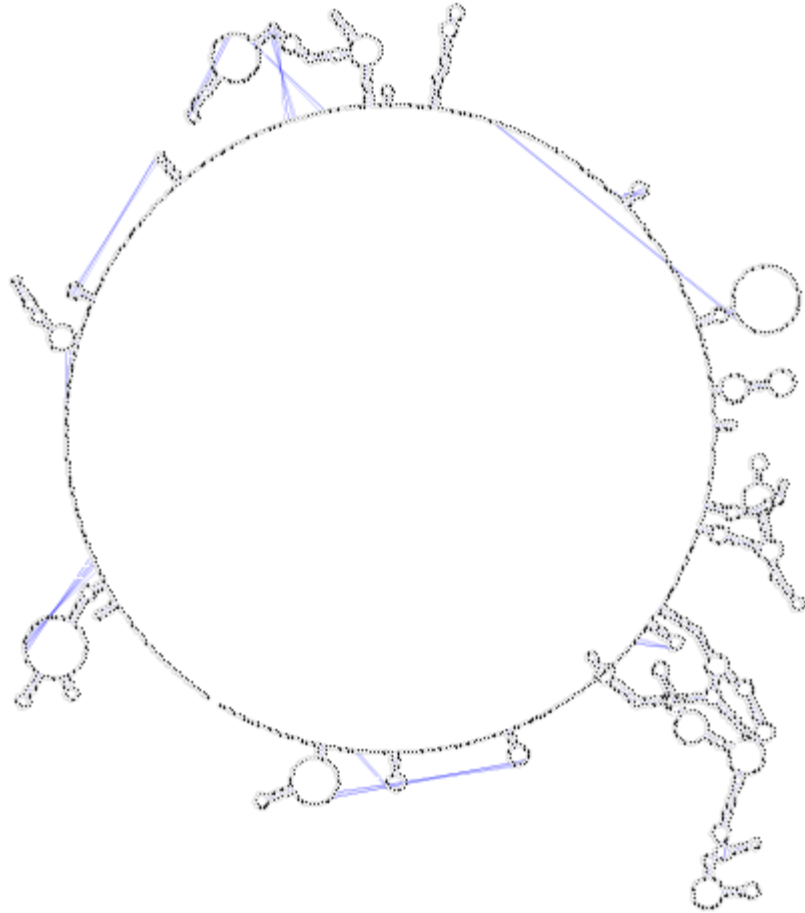


Fig. S28. Predicting RNA secondary structures of S1SSADH-16

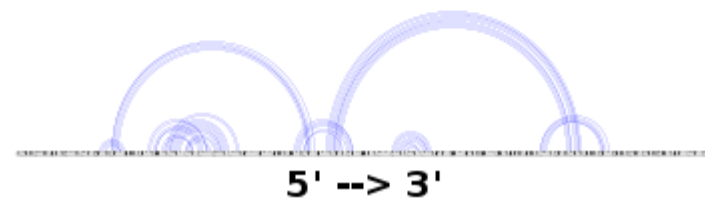
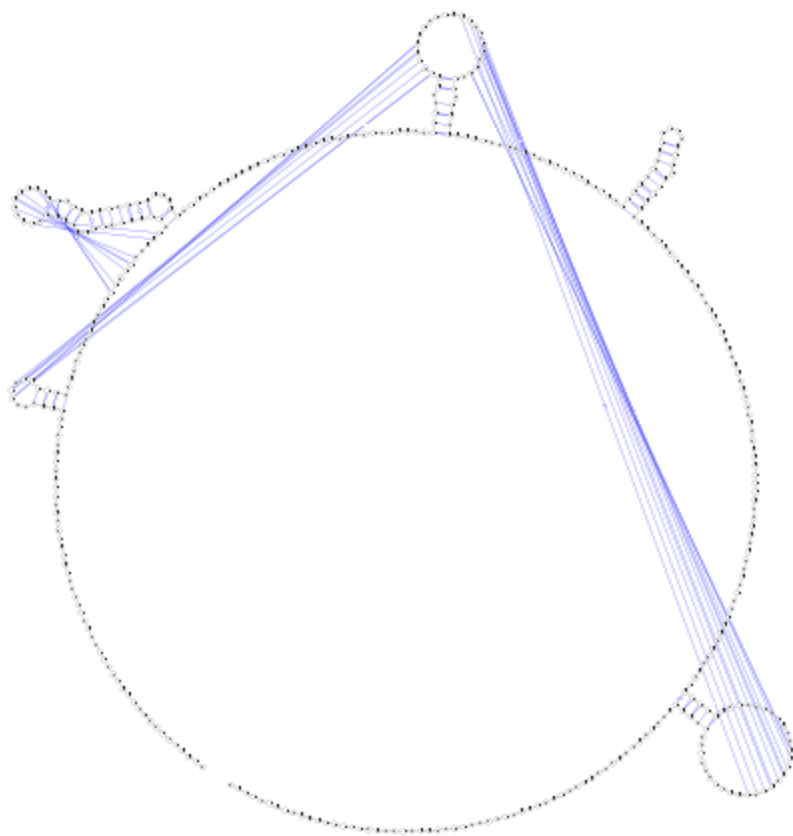


Fig. S29. Predicting RNA secondary structures of SIDHN-1

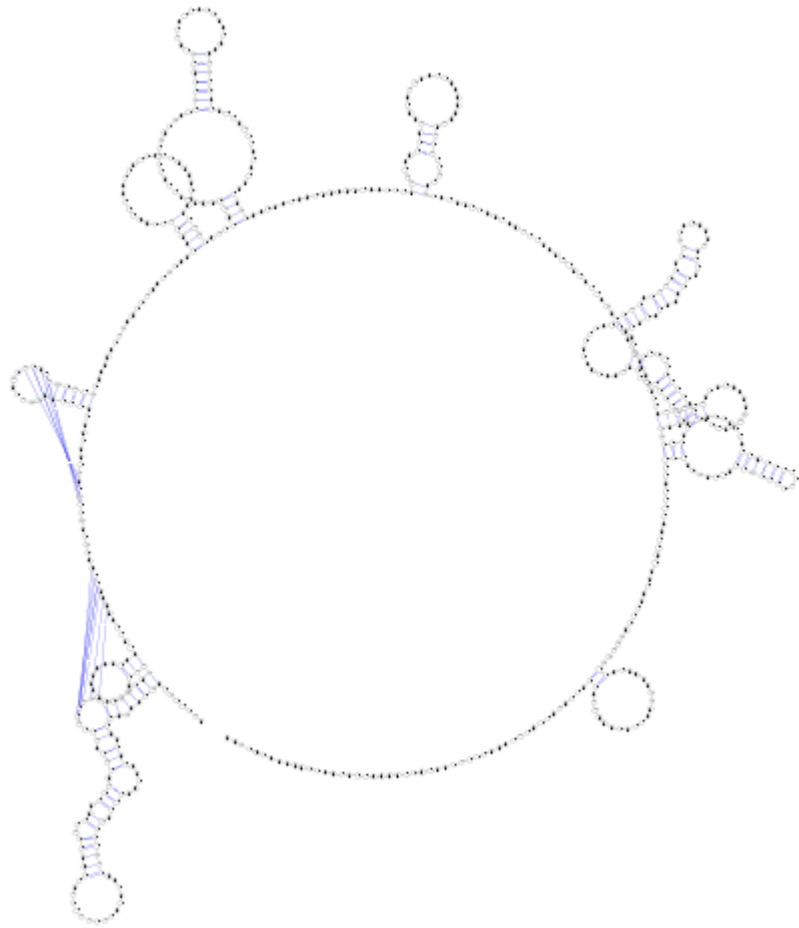


Fig. S30. Predicting RNA secondary structures of SIDHN-2

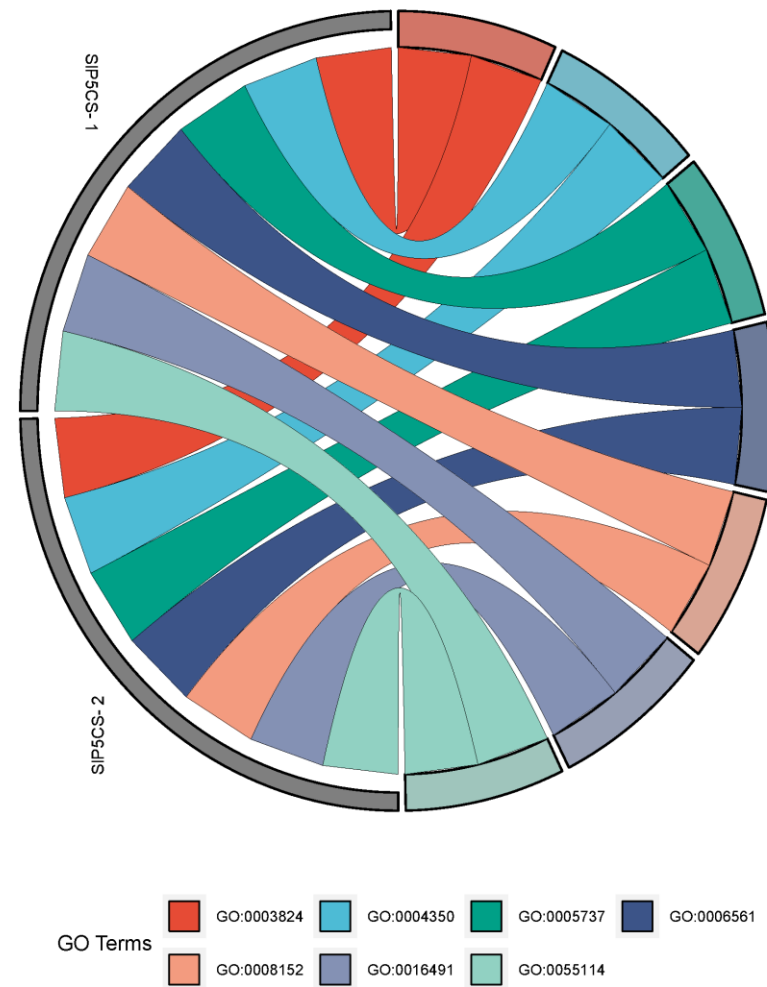


Fig. S31. GO terms for *P5CS* genes

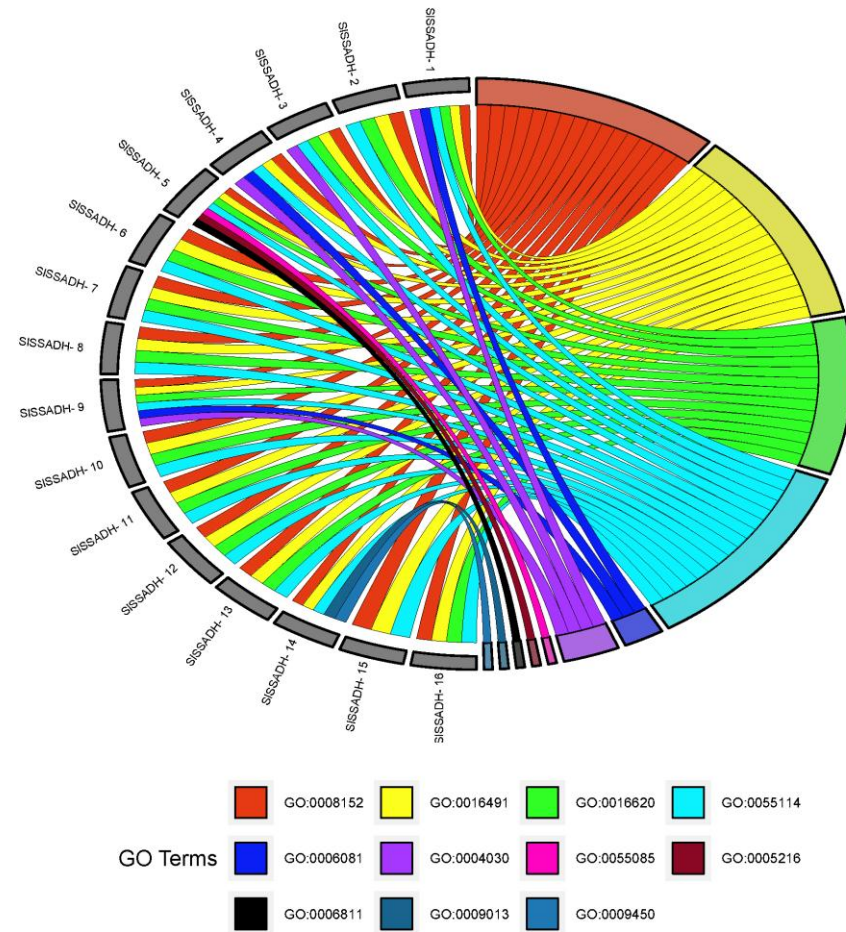


Fig. S32. GO terms for *SSADH* genes

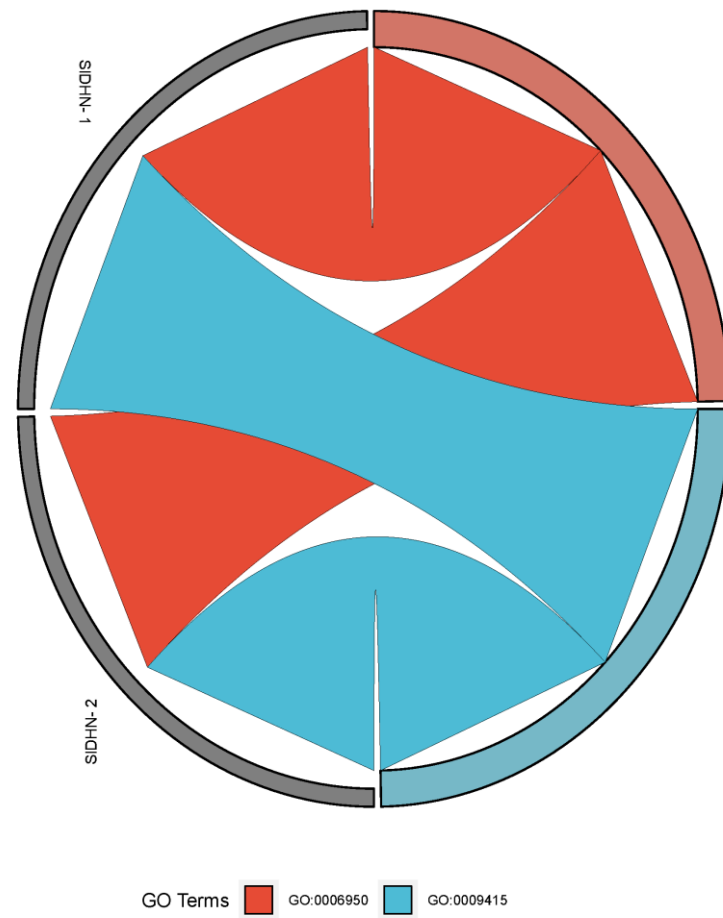


Fig. S33. GO terms for *DHN* genes

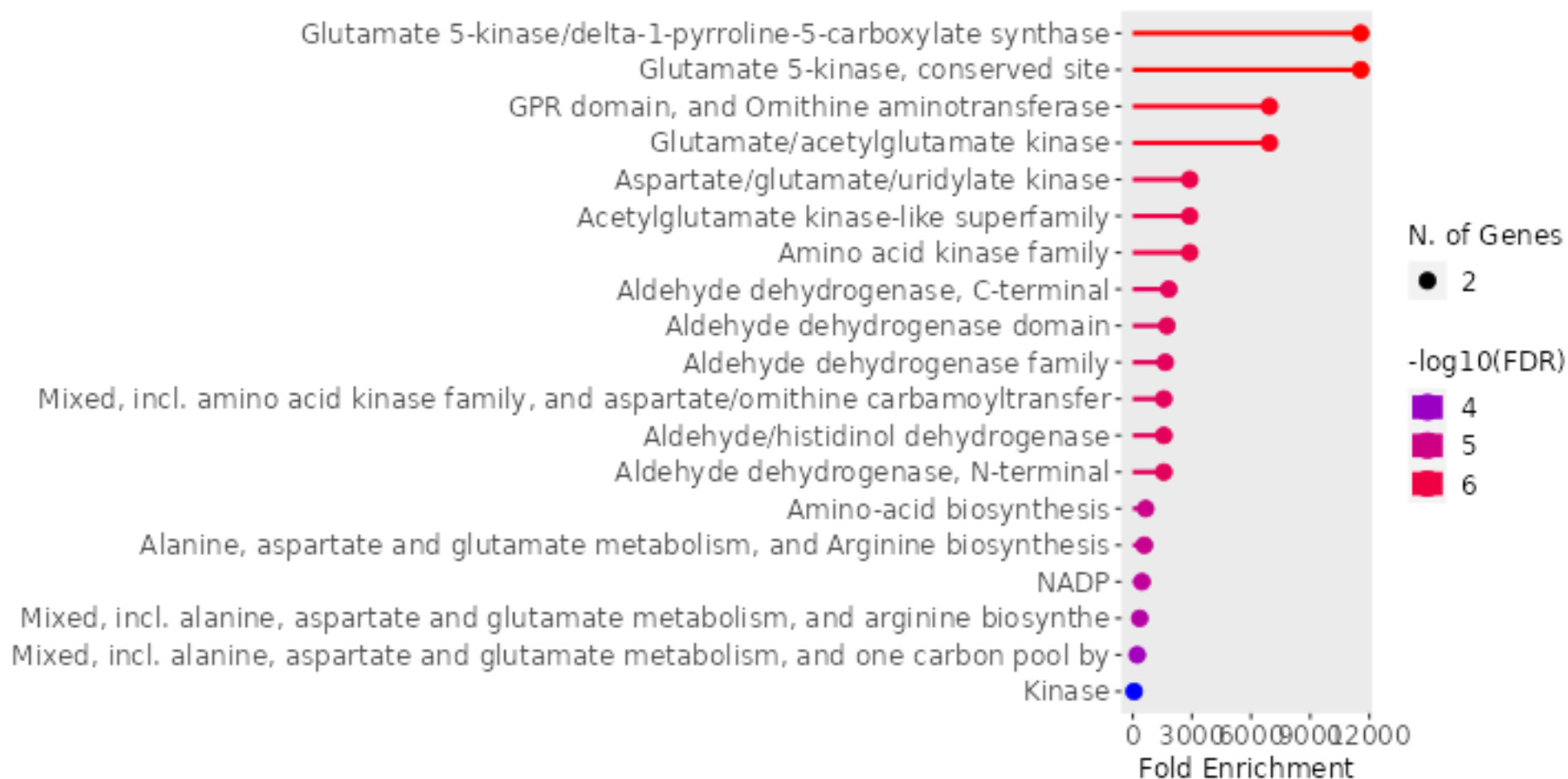


Fig. S34. Gene ontology enrichment analysis were confirmed the functional role of *P5CS* as a stress responsive

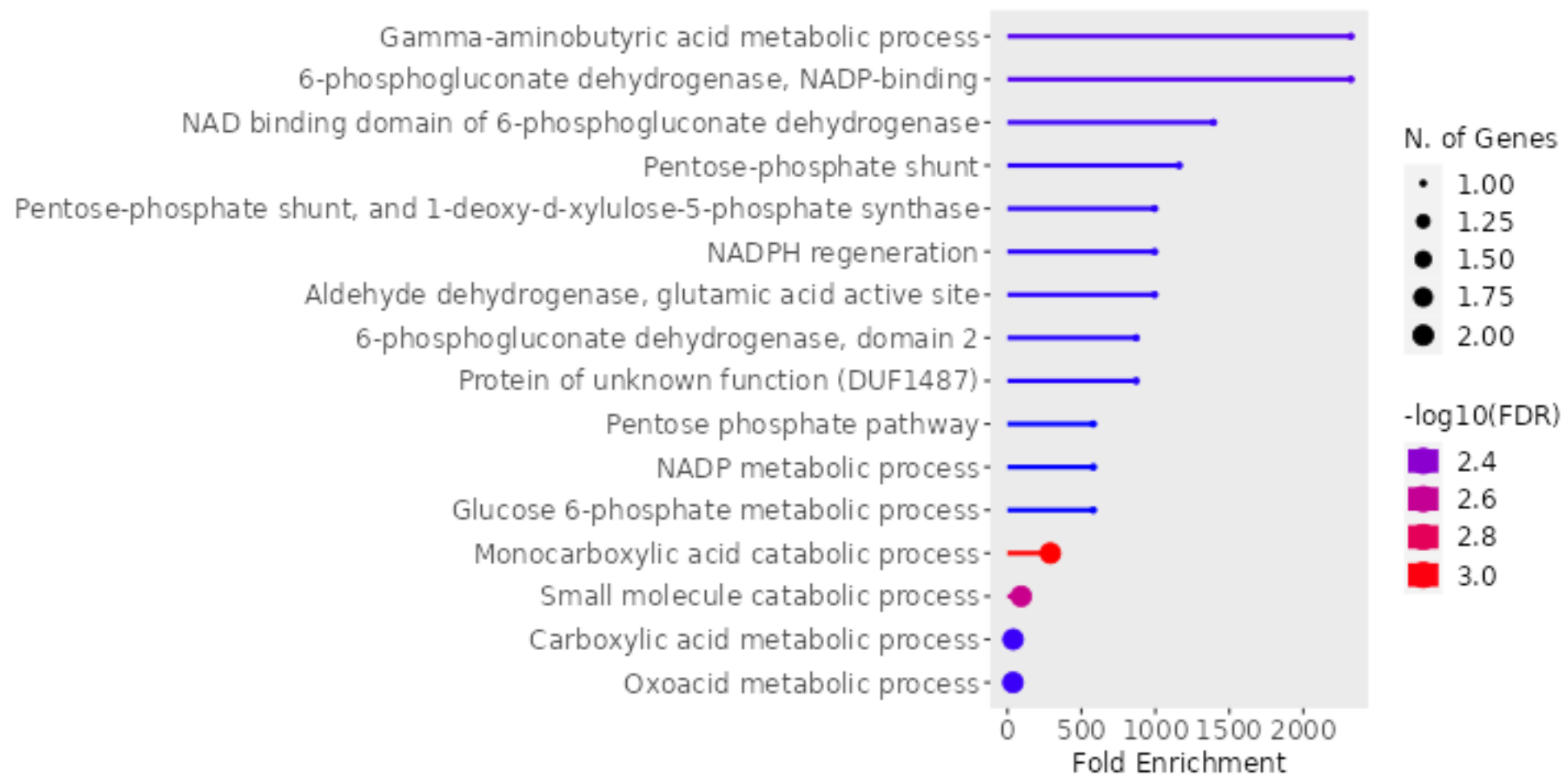


Fig. S35. Gene ontology enrichment analysis were confirmed the functional role of *SSADH* as a stress responsive

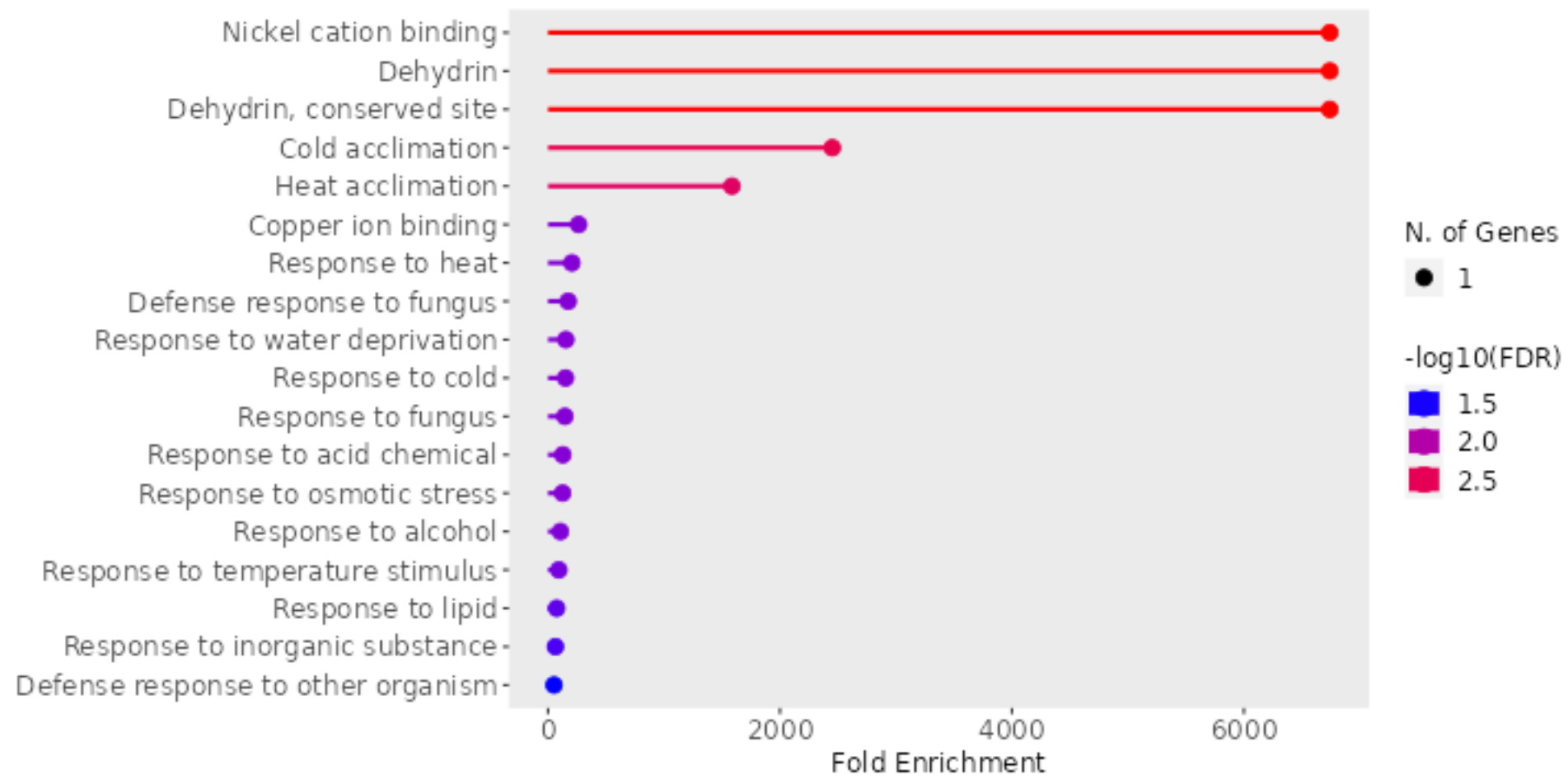


Fig. S36. Gene ontology enrichment analysis were confirmed the functional role of *DHN* as a stress responsive