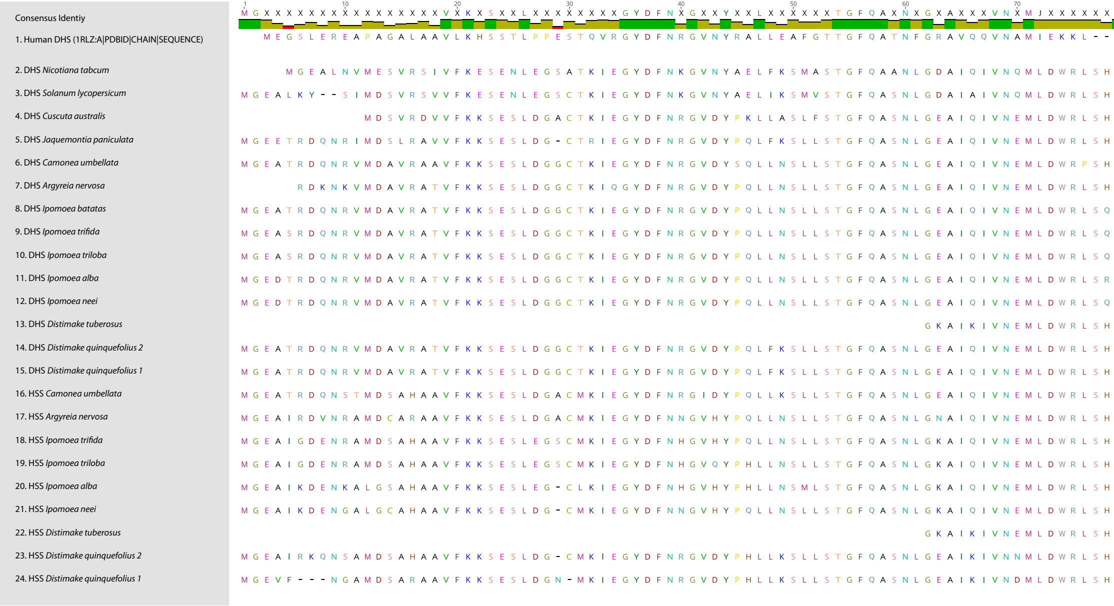
L Lys329, to which the butylamine moiety of spermidine is transferred

N Amino acids, that form hydrogen bonds to NAD

N Amino acids with hydophobic interactions with NAD

S Amino acids, that form hydrogen bonds to spermidine

S Amino acids with hydophobic interactions with spermidine



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                                            1        10        20        30        40        50        60        70
Consensus Identiy                           MGXXXXXXXXXXXXXXXXVXKXSXXLXXXXXXXXGYDFNXGXXYXXLXXXXXXTGFQAXNXGXAXXXVNXMJXXXXXX
1. Human DHS (1RLZ:A|PDBID|CHAIN|SEQUENCE)    MEGSLEREAPAGALAAVLKHSSTLPPESTQVRGYDFNRGVNYRALLEAFGTTGFQATNFGRAVQQVNAMIEKKL--
2. DHS Nicotiana tabcum                         MGEALNVMESVRSIVFKESENLEGSATKIEGYDFNKGVNYAELFKSMASTGFQAANLGDAIQIVNQMLDWRLSH
3. DHS Solanum lycopersicum                 MGEALKY--SIMDSVRSVVFKESENLEGSCTKIEGYDFNKGVNYAELIKSMVSTGFQASNLGDAIAIVNQMLDWRLSH
4. DHS Cuscuta australis                                MDSVRDVVFKKSESLDGACTKIEGYDFNRGVDYPKLLASLFSTGFQASNLGEAIQIVNEMLDWRLSH
5. DHS Jaquemontia paniculata               MGEETRDQNRIMDSLRAVVFKKSESLDG-CTRIEGYDFNRGVDYPQLFKSLLSTGFQASNLGEAIQIVNEMLDWRLSH
6. DHS Camonea umbellata                    MGEATRDQNRVMDAVRAAVFKKSESLDGGCTKIEGYDFNRGVDYSQLLNSLLSTGFQASNLGEAIQIVNEMLDWRPSH
7. DHS Argyreia nervosa                          RDKNKVMDAVRATVFKKSESLDGGCTKIQGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSH
8. DHS Ipomoea batatas                      MGEATRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSQ
9. DHS Ipomoea trifida                      MGEASRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSQ
10. DHS Ipomoea triloba                     MGEASRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSQ
11. DHS Ipomoea alba                        MGEDTRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSR
12. DHS Ipomoea neei                        MGEDTRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLLNSLLSTGFQASNLGEAIQIVNEMLDWRLSQ
13. DHS Distimake tuberosus                                                                              GKAIKIVNEMLDWRLSH
14. DHS Distimake quinquefolius 2           MGEATRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLFKSLLSTGFQASNLGEAIQIVNEMLDWRLSH
15. DHS Distimake quinquefolius 1           MGEATRDQNRVMDAVRATVFKKSESLDGGCTKIEGYDFNRGVDYPQLFKSLLSTGFQASNLGEAIQIVNEMLDWRLSH
16. HSS Camonea umbellata                   MGEATRDQNSTMDSAHAAVFKKSESLDGACMKIEGYDFNRGIDYPQLLKSLLSTGFQASNLGEAIQIVNEMLDWRLSH
17. HSS Argyreia nervosa                    MGEAIRDVNRAMDCARAAVFKKSESLDGACMKIEGYDFNNGVHYPQLLNSLLSTGFQASNLGNAIQIVNEMLDWRLSH
18. HSS Ipomoea trifida                     MGEAIGDENRAMDSAHAAVFKKSESLEGSCMKIEGYDFNHGVHYPQLLNSLLSTGFQASNLGKAIQIVNEMLDWRLSH
19. HSS Ipomoea triloba                     MGEAIGDENRAMDSAHAAVFKKSESLEGSCMKIEGYDFNHGVQYPHLLNSLLSTGFQASNLGKAIQIVNEMLDWRLSH
20. HSS Ipomoea alba                        MGEAIKDENKALGSAHAAVFKKSESLEG-CLKIEGYDFNHGVHYPHLLNSMLSTGFQASNLGKAIQIVNEMLDWRLSH
21. HSS Ipomoea neei                        MGEAIKDENGALGCAHAAVFKKSESLDG-CMKIEGYDFNNGVHYPQLLNSLLSTGFQASNLGKAIQIVNEMLDWRLSH
22. HSS Distimake tuberosus                                                                              GKAIKIVNEMLDWRLSH
23. HSS Distimake quinquefolius 2           MGEAIRKQNSAMDSAHAAVFKKSESLDG-CMKIEGYDFNRGVDYPHLLKSLLSTGFQASNLGEAIKIVNNMLDWRLSH
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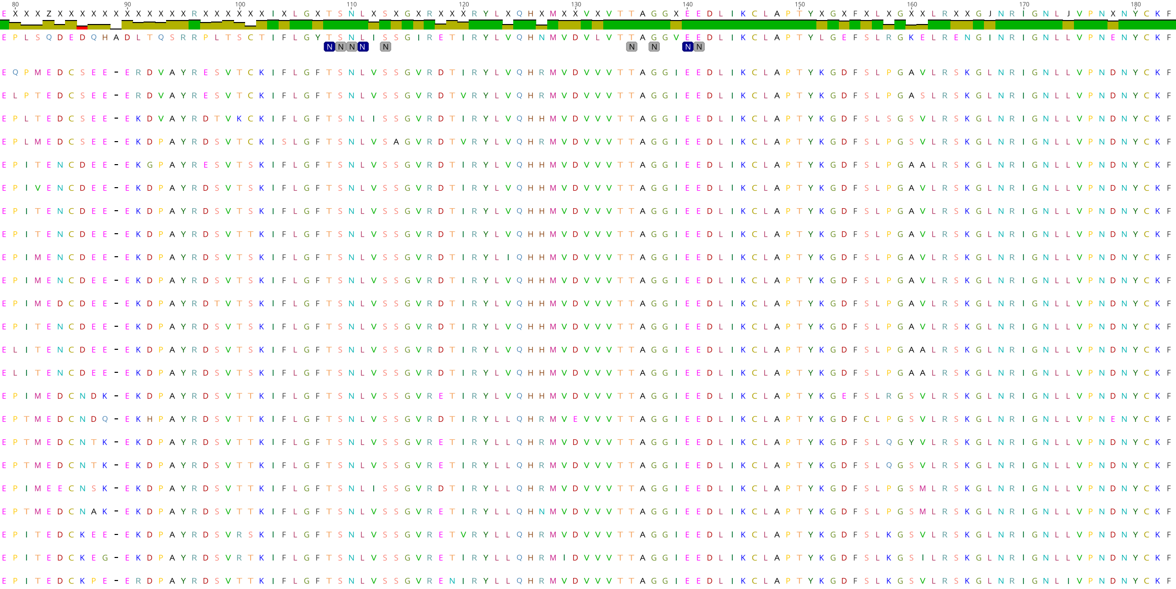

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E P L S Q D E D Q H A D L T Q S R R P L T S C T I F L G Y T S N L I S S G I R E T I R Y L V Q H N M V D V L V T T A G G V E E D L I K C L A P T Y L G E F S L R G K E L R E N G I N R I G N L L V P N E N Y C K F
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E Q P M E D C S E E - E R D V A Y R E S V T C K I F L G F T S N L V S S G V R D T I R Y L V Q H R M V D V V V T T A G G I E E D L I K C L A P T Y K G D F S L P G A V L R S K G L N R I G N L L V P N D N Y C K F
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E P L T E D C S E E - E K D V A Y R D T V K C K I F L G F T S N L I S S G V R D T I R Y L V Q H H M V D V V V T T A G G I E E D L I K C L A P T Y K G D F S L S G S V L R S K G L N R I G N L L V P N D N Y C K F
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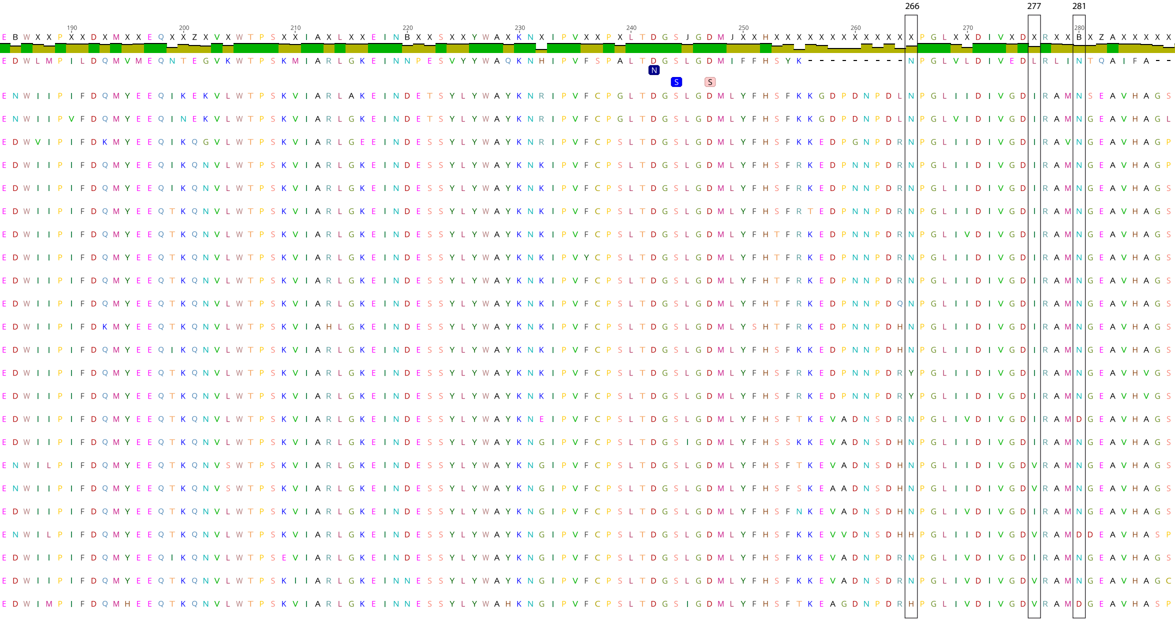

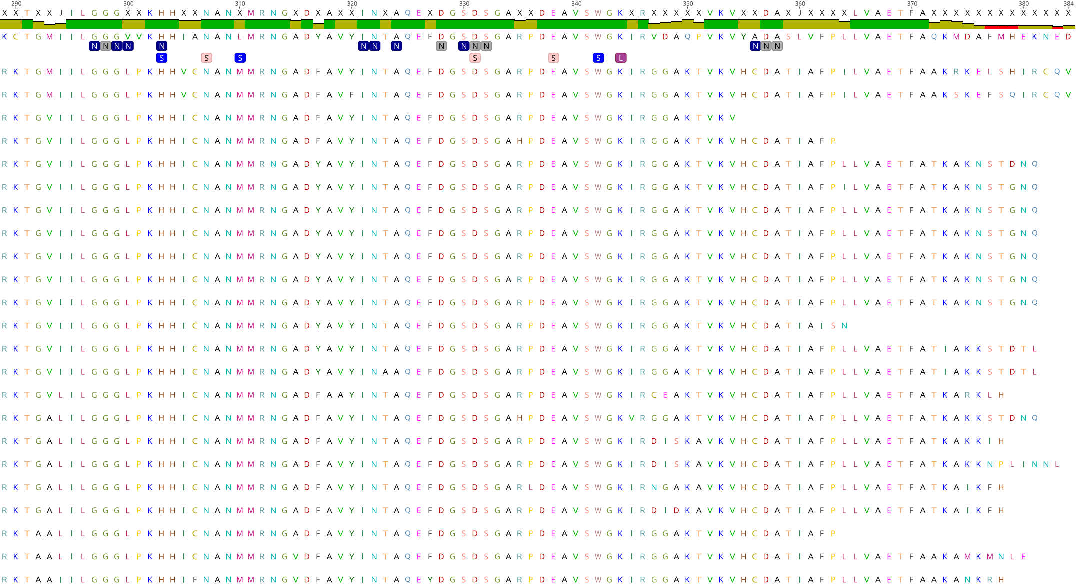

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K C T G M I I L G G G V V K H H I A N A N L M R N G A D Y A V Y I N T A Q E F D G S D S G A R P D E A V S W G K I R V D A Q P V K V Y A D A S L V F P L L V A E T F A Q K M D A F M H E K N E D
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