

VI. Supplementary Figure S1

Name	Accession Used	metazoa>chordata>vertebrata	metazoa>chordata>tunicata	metazoa>chordata>cephalochordata	metazoa>echinodermata	metazoa>hemichordata	metazoa>arthropoda>hexapoda	metazoa>arthropoda>chelicerata	metazoa>arthropoda>crustacea	metazoa>nematoda	metazoa>priapulida	metazoa>annelida	metazoa>mollusca	metazoa>brachiopoda	metazoa>platyhelminthe	metazoa>cnidaria	metazoa>placozoa	metazoa>porifera	Metazoan progenitor	choanoflagellida	filasterea	Holozoan progenitor	fungi>dikarya	fungi>chytridiomycota	fungi>mucoromycotina	fungi>kickxellomycotina	Fungal progenitor	cristidiscoidea	apusozoa>apusomonadidae	amoebozoa>acanthamoebidae	amoebozoa>entamoebidae	amoebozoa>mycetozoa>dictyostellida	Unnikont progenitor	viridiplantae>streptophyta	viridiplantae>chlorophyta	rhodophyta	stramenopiles>bacillariophyta	stramenopiles>oomycetes	alveolata>apicomplexa	alveolata>ciliophora	rhizaria	SAR progenitor	haptophyceae	heterolobosea	euglenozoa>kinetoplastida	diplomnadata	parabasalia	LECA									
Calmodulin family	NP_008819.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P									
ERp57 (PDIA3)	NP_005304.3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P								
SERCA	NP_733765.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P								
CaMK / CDPK	NP_001308498.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P							
Calstabin	NP_463460.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P							
PPP2R3	NP_002709.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P								
Calcineurin A	NP_000935.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	P	P	P	P	A	P	P	P	P	P	P	P	P							
Calcineurin B	NP_000936.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P							
TMX1	NP_110382.3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	A	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P						
Calreticulin	NP_004334.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P						
Calnexin	NP_001737.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	A	P	A	A	P	P	P	P	A	P	P	A	P	P	P	P	P	P	P	P	A	A	P	P	P					
TRIC	NP_076979.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	A	A	A	P	P	P	P	P	P	P	A	A	P	P	P				
Homer (WH1 dom.)	NP_004263.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	A	A	P	A	A	A	A	P	P	A	P	A	A	P	A	A	P	P	P					
ERdj5	NP_061854.1	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	A	P	P	A	P	A	P	A	A	A	A	A	A	P	A	A	P	P	P	A	A	P	P	P	P	P	P	P	P	A	A	A	P	P	P						
Sarcalumenin	NP_001092284.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P	P	A	A	A							
IP3R	NP_001161744.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	P	A	P	P	A	P	A	P	A	P	P	P	P	P	P	P	P	P	A	A	A							
ORAI	NP_116179.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	P	P	P	A	P	P	P	P	A	P	P	P	P	P	A	A	A	A							
NCS1	NP_055101.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	A	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A					
Calcipressin	NP_001272320.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	A	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
STIM	NP_001264890.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
ERp44	NP_055866.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
RyR	NP_000531.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
Sorcin	NP_003121.1	P	A	P	P	P	A	A	A	A	A	A	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
L-type VGCC (pore)	NP_000060.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
TRPC	NP_003297.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
WFS2 (CISD2)	NP_001008389.1	P	P	P	P	P	A	P	A	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
CREC family	NP_001186601.1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
Bcl2	NP_000624.2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
SeIN	NP_065184.2	P	P	P	P	A	P	A	A	P	P	P	P	P	P	P	A	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
Wolframin	NP_005996.2	P	P	A	A	P	P	P	P	A	P	P	P	A	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
Neurabin	NP_115984.3	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
Tespa1 (KRAP dom.)	NP_001129502.1	P	P	P	P	P	P	A	P	P	P	P	A	P	A	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
Calsequestrin	NP_001222.3	P	P	P	A	P	A	P	A	P	A	A	A	A	A	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
S100	NP_006262.1	P	P	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

VII. Supplementary Figure S2



ABQ30334, ABQ30333 from *Acidiphilium cryptum* JF-5 (α-proteobacteria)



ADN08417, ADN08416 from *Sulfurimonas autotrophica* DSM 16294 (ε-proteobacteria)



AFL87427, AFL87428 from *Terriglobus roseus* DSM 18391 (acidobacteria)



AEY94042, AEY94041, AEY94040 from *Streptomyces hygroscopicus* subsp. *jinggangensis* 5008 (actinobacteria)

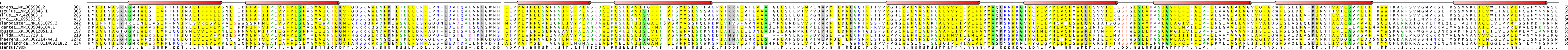


APC18922, APC18921, APC18920 from *Pseudomonas frederiksbergensis* (γ-proteobacteria)



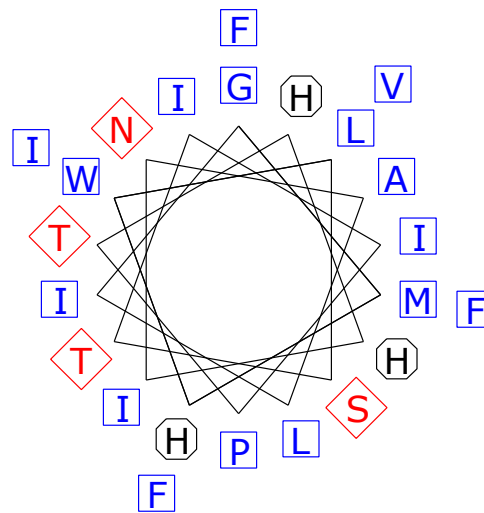
AEN97664, AEN97663 from *Roseburia hominis* A2-183 (firmicutes)

VII. Supplementary Figure S3

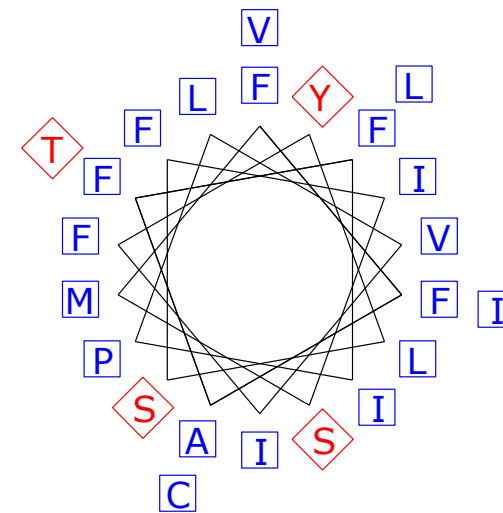


IX. Supplementary Figure S4

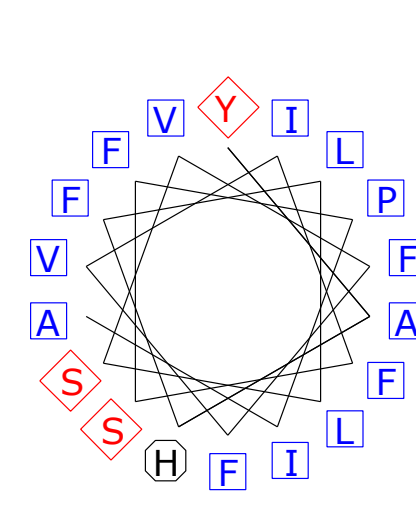
A. TM1 (311..333)



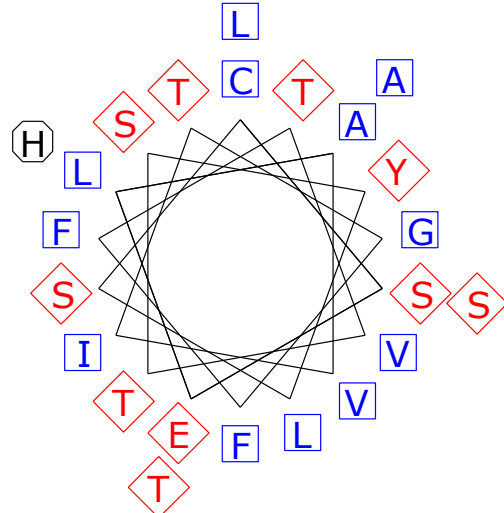
B. TM2 (340..362)



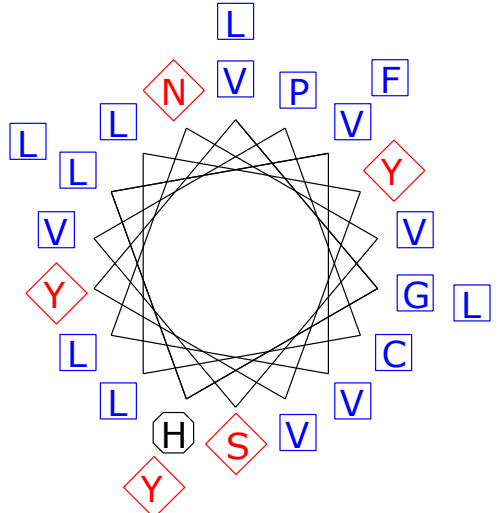
C. TM3 (405..422)



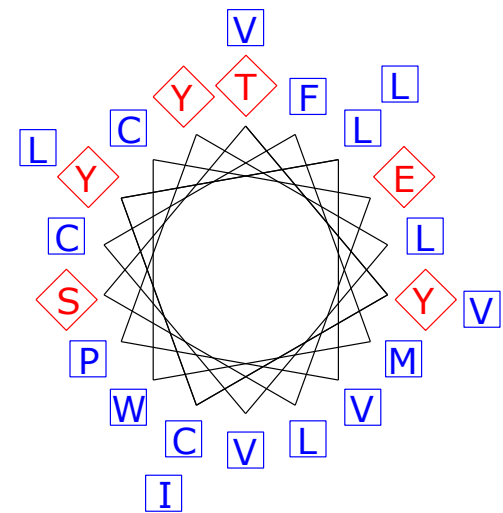
D. TM4 (429..451)



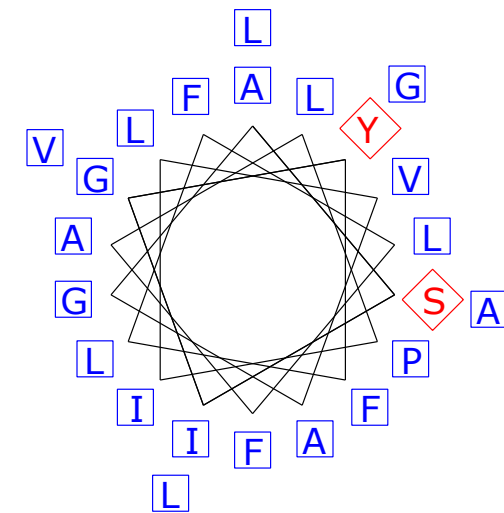
E. TM5 (493..515)



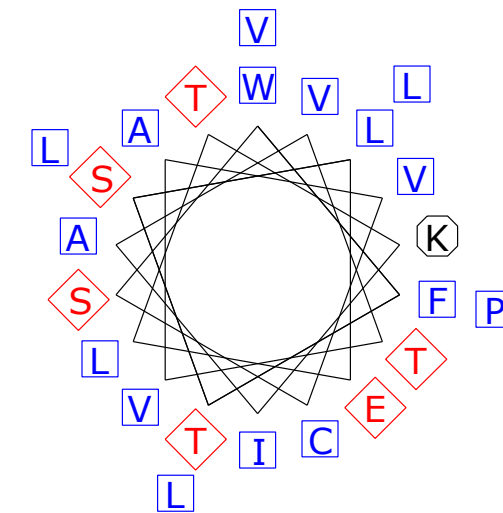
F. TM6 (527..549)



G. TM7 (559..581)



H. TM8 (588..610)



I. TM9 (630..652)

