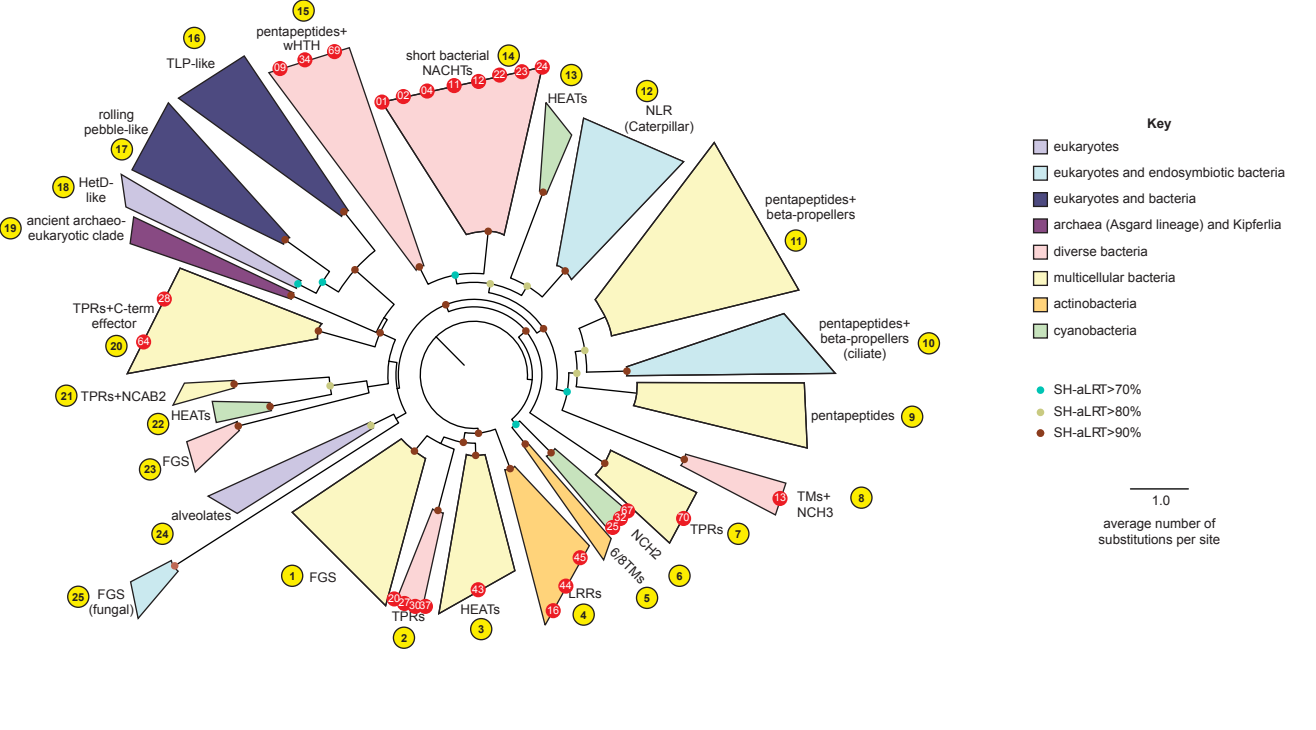
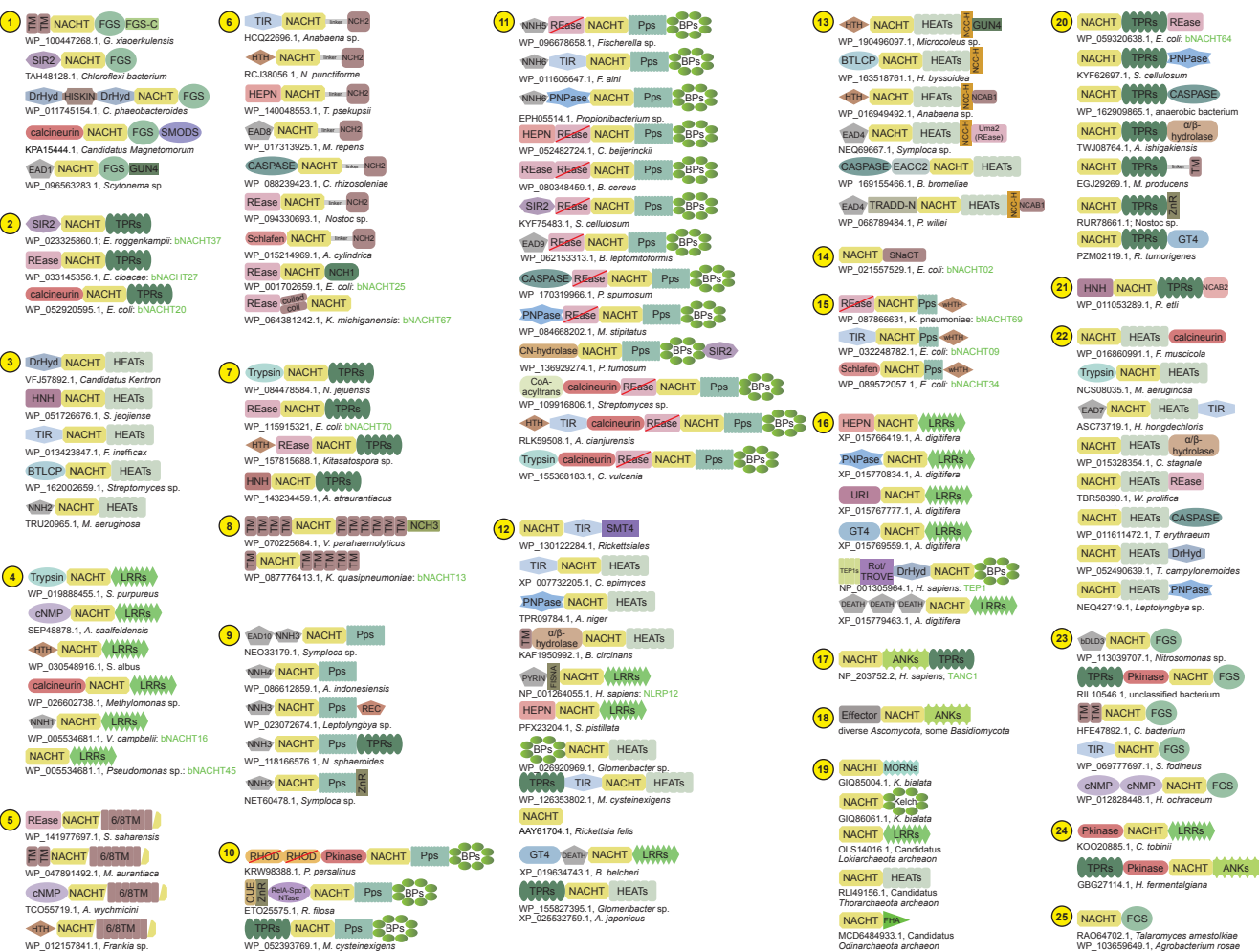

1 FGS
2 TPRs
3 HEATs
4 LRRs
5 6/8TMs
6 NCH2
7 TPRs
8 TMs+ NCH3
9 pentapeptides
10 pentapeptides+ beta-propellers (ciliate)
11 pentapeptides+ beta-propellers
12 NLR (Caterpillar)
13 HEATs
14 short bacterial NACHTs
15 pentapeptides+ wHTH
16 TLP-like
17 rolling pebble-like
18 HetD-like
19 ancient archaeo-eukaryotic clade
20 TPRs+C-term effector
21 TPRs+NCAB2
22 HEATs
23 FGS
24 alveolates
25 FGS (fungal)
Key
eukaryotes
eukaryotes and endosymbiotic bacteria
eukaryotes and bacteria
archaea (Asgard lineage) and Kipferlia
diverse bacteria
multicellular bacteria
actinobacteria
cyanobacteria
SH-aLRT>70%
SH-aLRT>80%
SH-aLRT>90%
1.0
average number of substitutions per site


1
TM TM NACHT FGS FGS-C
WP_100447268.1, G. xiaoerkulensis
SIR2 NACHT FGS
TAH48128.1, Chloroflexi bacterium
DrHyd HISKIN DrHyd NACHT FGS
WP_011745154.1, C. phaeobacteroides
calcineurin NACHT FGS SMODS
KPA15444.1, Candidatus Magnetomorum
EAD1 NACHT FGS GUN4
WP_096563283.1, Scytonema sp.
2
SIR2 NACHT TPRs
WP_023325860.1; E. roggenkampii: bNACHT37
REase NACHT TPRs
WP_033145356.1, E. cloacae: bNACHT27
calcineurin NACHT TPRs
WP_052920595.1, E. coli: bNACHT20
3
DrHyd NACHT HEATs
VFJ57892.1, Candidatus Kentron
HNH NACHT HEATs
WP_051726676.1, S. jeojiense
TIR NACHT HEATs
WP_013423847.1, F. inefficax
BTLCP NACHT HEATs
WP_162002659.1, Streptomyces sp.
NNH2 NACHT HEATs
TRU20965.1, M. aeruginosa
4
Trypsin NACHT LRRs
WP_019888455.1, S. purpureus
cNMP NACHT LRRs
SEP48878.1, A. saalfeldensis
HTH NACHT LRRs
WP_030548916.1, S. albus
calcineurin NACHT LRRs
WP_026602738.1, Methylomonas sp.
NNH1 NACHT LRRs
WP_005534681.1, V. campbellii: bNACHT16
NACHT LRRs
WP_005534681.1, Pseudomonas sp.: bNACHT45
5
REase NACHT 6/8TM
WP_141977697.1, S. saharensis
TM TM NACHT 6/8TM
WP_047891492.1, M. aurantiaca
cNMP NACHT 6/8TM
TCO55719.1, A. wychmicini
HTH NACHT 6/8TM
WP_012157841.1, Frankia sp.
6
TIR NACHT NCH2
HCQ22696.1, Anabaena sp.
HTH NACHT NCH2
RCJ38056.1, N. punctiforme
HEPN NACHT NCH2
WP_140048553.1, T. psekupsii
EAD8 NACHT NCH2
WP_017313925.1, M. repens
CASPASE NACHT NCH2
WP_088239423.1, C. rhizosoleniae
REase NACHT NCH2
WP_094330693.1, Nostoc sp.
Schlafen NACHT NCH2
WP_015214969.1, A. cylindrica
REase NACHT NCH1
WP_001702659.1, E. coli: bNACHT25
REase coiled coil NACHT
WP_064381242.1, K. michiganensis: bNACHT67
7
Trypsin NACHT TPRs
WP_084478584.1, N. jejuensis
REase NACHT TPRs
WP_115915321, E. coli: bNACHT70
HTH REase NACHT TPRs
WP_157815688.1, Kitasatospora sp.
HNH NACHT TPRs
WP_143234459.1, A. atraurantiacus
8
TM TM TM TM NACHT TM TM TM TM TM NCH3
WP_070225684.1, V. parahaemolyticus
TM NACHT TM TM TM TM TM
WP_087776413.1, K. quasipneumoniae: bNACHT13
9
EAD10 NNH3 NACHT Pps
NEO33179.1, Symploca sp.
NNH4 NACHT Pps
WP_086612859.1, A. indonesiensis
NNH3 NACHT Pps REc
WP_023072674.1, Leptolyngbya sp.
NNH3 NACHT Pps BPs
WP_118166576.1, N. sphaeroides
NNH3 NACHT Pps ZnR
NET60478.1, Symploca sp.
10
RHOD RHOD Pkinase NACHT Pps BPs
KRW98388.1, P. persalinus
CUE ZnR RelA-SpoT NTase NACHT Pps BPs
ETO25575.1, R. filosa
TPRs NACHT Pps BPs
WP_052393769.1, M. cysteinexigens
11
NNH5 REase NACHT Pps BPs
WP_096678658.1, Fischerella sp.
NNH6 TIR NACHT Pps BPs
WP_011606647.1, F. alni
NNH6 PNPase NACHT Pps BPs
EPH05514.1, Propionibacterium sp.
HEPN REase NACHT Pps BPs
WP_052482724.1, C. beijerinckii
REase REase NACHT Pps BPs
WP_080348459.1, B. cereus
SIR2 REase NACHT Pps BPs
KYF75483.1, S. cellulosum
EAD9 REase NACHT Pps BPs
WP_062153313.1, B. leptomitoformis
CASPASE REase NACHT Pps BPs
WP_170319966.1, P. spumosum
PNPase REase NACHT Pps BPs
WP_084668202.1, M. stipitatus
CN-hydrolase NACHT Pps BPs SIR2
WP_136929274.1, P. fumosum
CoA-acyltrans calcineurin REase NACHT Pps BPs
WP_109916806.1, Streptomyces sp.
HTH TIR calcineurin REase NACHT Pps BPs
RLK59508.1, A. cianjurensis
Trypsin calcineurin REase NACHT Pps BPs
WP_155368183.1, C. vulcania
12
NACHT TIR SMT4
WP_130122284.1, Rickettsiales
TIR NACHT HEATs
XP_007732205.1, C. epimyces
PNPase NACHT HEATs
TPR09784.1, A. niger
TM α/β-hydrolase NACHT HEATs
KAF1950992.1, B. circinans
PYRIN CARD NACHT LRRs
NP_001264055.1, H. sapiens: NLRP12
HEPN NACHT LRRs
PFX23204.1, S. pistillata
BPs NACHT HEATs
WP_026920969.1, Glomeribacter sp.
TPRs TIR NACHT HEATs
WP_126353802.1, M. cysteinexigens
NACHT
AAY61704.1, Rickettsia felis
GT4 DEATH NACHT LRRs
XP_019634743.1, B. belcheri
TPRs NACHT HEATs
WP_155827395.1, Glomeribacter sp.
XP_025532759.1, A. japonicus
13
HTH NACHT HEATs NCC-H GUN4
WP_190496097.1, Microcoleus sp.
BTLCP NACHT HEATs NCC-H
WP_163518761.1, H. byssoidea
HTH NACHT HEATs NCC-H NCAB1
WP_016949492.1, Anabaena sp.
EAD4 NACHT HEATs NCC-H Uma2 (REase)
NEQ69667.1, Symploca sp.
CASPASE EACC2 NACHT HEATs
WP_169155466.1, B. bromeliae
EAD4 TRADD-N NACHT HEATs NCC-H NCAB1
WP_068789484.1, P. willei
14
NACHT SNaCT
WP_021557529.1, E. coli: bNACHT02
15
REase NACHT Pps HTH
WP_087866631, K. pneumoniae: bNACHT69
TIR NACHT Pps HTH
WP_032248782.1, E. coli: bNACHT09
Schlafen NACHT Pps HTH
WP_089572057.1, E. coli: bNACHT34
16
HEPN NACHT LRRs
XP_015766419.1, A. digitifera
PNPase NACHT LRRs
XP_015770834.1, A. digitifera
URI NACHT LRRs
XP_015767777.1, A. digitifera
GT4 NACHT LRRs
XP_015769559.1, A. digitifera
TEP1c Rot/TROVE DrHyd NACHT BPs
NP_001305964.1, H. sapiens: TEP1
DEATH DEATH DEATH NACHT LRRs
XP_015779463.1, A. digitifera
17
NACHT ANKs TPRs
NP_203752.2, H. sapiens; TANC1
18
Effector NACHT ANKs
diverse Ascomycota, some Basidiomycota
19
NACHT MORNs
GIQ85004.1, K. bialata
NACHT Kelch
GIQ86061.1, K. bialata
NACHT LRRs
OLS14016.1, Candidatus Lokiarchaeota archeaon
NACHT HEATs
RLI49156.1, Candidatus Thorarchaeota archeaon
NACHT FHA
MCD6484933.1, Candidatus Odinarchaeota archaeon
20
NACHT TPRs REase
WP_059320638.1, E. coli: bNACHT64
NACHT TPRs PNPase
KYF62697.1, S. cellulosum
NACHT TPRs CASPASE
WP_162909865.1, anaerobic bacterium
NACHT TPRs α/β-hydrolase
TWJ08764.1, A. ishigakiensis
NACHT TPRs TM
EGJ29269.1, M. producens
NACHT TPRs ZnR
RUR78661.1; Nostoc sp.
NACHT TPRs GT4
PZM02119.1, R. tumorigenes
21
HNH NACHT TPRs NCAB2
WP_011053289.1, R. etli
22
NACHT HEATs calcineurin
WP_016860991.1, F. muscicola
Trypsin NACHT HEATs
NCS08035.1, M. aeruginosa
EAD7 NACHT HEATs TIR
ASC73719.1, H. hongdechloris
NACHT HEATs α/β-hydrolase
WP_015328354.1, C. stagnale
NACHT HEATs REase
TBR58390.1, W. prolifica
NACHT HEATs CASPASE
WP_011611472.1, T. erythraeum
NACHT HEATs DrHyd
WP_052490639.1, T. campylonemoides
NACHT HEATs PNPase
NEQ42719.1, Leptolyngbya sp.
23
bDLD3 NACHT FGS
WP_113039707.1, Nitrosomonas sp.
TPRs Pkinase NACHT FGS
RIL10546.1, unclassified bacterium
TM TM NACHT FGS
HFE47892.1, C. bacterium
TIR NACHT FGS
WP_069777697.1, S. fodineus
cNMP cNMP NACHT FGS
WP_012828448.1, H. ochraceum
24
Pkinase NACHT LRRs
KOO20885.1, C. tobinii
TPRs Pkinase NACHT ANKs
GBG27114.1, H. fermentalgiana
25
NACHT FGS
RAO64702.1, Talaromyces amestolkiae
WP_103659649.1, Agrobacterium rosae