

CopN Chlamydia

1 10 20 30 40 50 60 70
CopN Chlamydia MAASGGTGGGLGGTQGVNLAAVEAAAAKADAAEVVASQESEMNMIIQSQDLTNPAAATRKKKEKFKQTL
MxiC Shigella .MLDVKNTGVFSSAFIDKLNAMTNSDDGDETADAELDSGLANS.....KYIDSSDEMALSLSFI...
InvE Salmonella .MTPGTSISGSRILSRQTSHQDATQHTDAQQAEIQQAEDSSPGAEVQKFGVSTDEMSALAEFR...
PopN BordetellaMTRIDAAPNPFAAMQGRHDASANTSSGWLQGRDIAPAP.TGISLADAAEELSALHMAQAAEEK
YopN/TyeA YersiniaMTTLHNISYGNTPLRNEHPETASSQIVNQTL.GQFRGESVQIVSGTLQSLADAAEEVTVVFSERKEL
PopN/Pcr1 PseudomonasMDILO...SSAAPLA...PREAANPAQOAG.GSFGGERVHVVS.VSQSLADAAEELTFAFSERAEEK.
hypoth./VP1666 VibrioMSIINSQIATNTKFDASVRNGLESSRADSAVKGSYRGETVVRVHN.ATQSLFDAMEELTSLGSEKAEK.

CopN Chlamydia

80 90 100 110 120 130 140
CopN Chlamydia ESRKKGEGAKAEKKESETEKPKDLDLADKYASGNSEISGQELRGLRDAIGDDASPEDLLALVQEKIKDPA
MxiC ShigellaNRRLLEKRLKGTNSDSERILID.....GEEDEINHKIFDKLKRTLKDNLLPDRDFIDRLKRYFKDPS
InvE SalmonellaRRDYEEKSSNSLSNFERVLE.....DEALPKANITLKLISVHGAL...EDFLRQARSLRFPDPS
PopN Bordetella HHSEKRVTAERFPMLWLDAAQLAELFSSHDPDAQAKLEALTAELLRGRGAPMQLAAQAFPG...VTVQY
YopN/TyeA Yersinia SLDKRKLSDSQARVSDVEEQVNQYLSKVPLEEQKQNVSELSSLNSPNISLSQLKAYLEKGSSEEPSQF
PopN/Pcr1 Pseudomonas SLAKRRLSDAHRLESVEVQAMLOEYWKRIIPDLEQQKLEALIAHLGSGQLSSLAQLSAYLEGFSSAISQRF
hypoth./VP1666 Vibrio DLTKRKIKDGGVVRVNEAEELVSDYLRKVPDLKQKIKIDLAAKAMAGNISTIAQLQAYLNGFSEEKSHQY

CopN Chlamydia

150 160 170 180 190 200
CopN Chlamydia LQSTALDYLVQTPPSQKLEKQELIQARNTHTEQFG...RTAIGAKNIIIFASQEYADQLNVKPSGLRSLDY
MxiC Shigella DQVLALELLEKDKDLTAEQVELLTKIINEIISGSE...KSVNAGINSIAIQAKLFG.NKMLKLEPQLLRACY
InvE Salmonella DLVLVRLRELLRRLKDLLEE.IVRRKLESLKHHVEEQTDP.RTKLAGINICALKARLFG.KTLSLKPGLLRASVY
PopN Bordetella LALQALQRGDHGEDAAP.HALEALRDALADLELAHG..PEITRAGINTLPTAGAF..RSADELAGFQHAAY
YopN/TyeA Yersinia KMLCGLRDALGHRPELA.HLSHLVQALVSMAEEOG..EATVLGARITPEAYRES.QSSVNPLOPLRDTYV
PopN/Pcr1 Pseudomonas LALSRLARDVLAGRPEAR.AMLALVDQALLRMADEEQG..LEITEGLGRIEPLAAEAS.AAGVGDIAQLRDTYV
hypoth./VP1666 Vibrio LALKAVKKYL SANPESK.HLLALIDQAILKI EQNPDSWSQIDTEIRVSHFADEFSKEQEFSSLHQLRGFV

CopN Chlamydia

210 220 230 240 250 260 270
CopN Chlamydia LEVFGDTHTCQQLLSMLQDRYFYQDMAI VSSFLMKGMATELKRQGPYVPSAQLQVLMETERNLQAVLTSY
MxiC Shigella RGFITMGNISTTDQYIEWLGNFGTYNHRHTIVNVFVEQSLIVDMDEKSPCNAYEFGFVLSKLAIKMIRTS.
InvE Salmonella RQFTIQSSESHEVYIADWLASYGYQRRLVLDPIEGSLTDIDANADPSCSRLEFGQLLRRLTQKMLRSA.
PopN Bordetella RDIALGGLSLVARTLDDLVLRYGNDDIHGALGALIQALGHDLAAPTSTDGVRLQGLASLDYQVMAATVYL
YopN/TyeA Yersinia RDAVMGYQGIYA IWSDLQKRFPPNGDIDSVILFLQKALSADLQSQSGSGREKLGIVISDLQKLEKFGSVS
PopN/Pcr1 Pseudomonas RDAVHSDYRGLSAAWQDIQARFAAFLPSTVVAFLQKALSADLQSSRLPDKLERVMSDMKLRVLGGLA
hypoth./VP1666 Vibrio RDTVHSYRGLGSAYQDVVERFGEQVLESTAVDFMLQGMASDLVSGNSIDPSVKLQLLMSDMKLRKLTLLIQ



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280 290 300 310 320 330 340
CopN Chlamydia DQYFESRVPILLDSLKAEGITQPSDLNFWKVAESYHKIINDKFPPTASKVEREVRNLI.GDDVDSVTVGLNLI
MxiC Shigella D.....VIFMKKLESLSLKDGSLSAEQLLTLLEYIFQVPSSESEQITLVIIEVSR..ASHEDSVVYQI
InvE Salmonella D.....LFLVSTLLSYSLTKAFNAEESWLLMLLQLQPHVEVSLADAIIGNALLLSHKHEASLFTQ
PopN Bordetella EECN...ALKQRLGNASGQE..CADAQGLMRDLVGISDKIAPARFEKLAERHG..ANALSERIAFLGG
YopN/TyeA Yersinia DQVKGFWQFFSEG.ITNIVRPFMAYDLSEFMGDIVALLDKRWAGIHDVLEHLANAFS.LPTPEIKVRFYQD
PopN/Pcr1 Pseudomonas EQVGALWQLVGTGERGHGIRAFMAYGPELMTGAVIALLEKRWVGVVAEQALHLEPLP.LADVARQIHFFRE
hypoth./VP1666 Vibrio DQVGRFLFQMFKPERMSHGLSGFMAYQASDLMADVIALVLEQRWVSSEELWKKIATSME.LVAIEQKIDFFRE

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350 360 370 380 390
CopN Chlamydia FFSALRQTSRSLFSSADKROQLGAMIANALDAVNINNEDYPKASDFPKPYPSWS
MxiC Shigella YLSVFNESPHDFKSESEREITAINILRELVTSAYKKEELSR.....
InvE Salmonella FYVCKAIPSSLFYFSEYWEELMALRSMTDSPYKHEMAEQRRRTIEKPS.....
PopN Bordetella VRRLKLDLPTQIYADMVRAITVLAQAQDALDNAIAMENA.....
YopN/TyeA Yersinia LKRMFLRLPLGVFSSDEEQRNLNMQCAIDMAIESEEBEL...SELD.....
PopN/Pcr1 Pseudomonas LKRLYRLLPVEVFGDDEQRNLLNACQMALDLAIEREEEQQ..HGLG.....
hypoth./VP1666 Vibrio LHKLIRHIVPVVFADEQRONLIQAAQKALDPAIDLEEEFEAWDDEL.....

Site 2