

S1 ...MDGR.....ESTSRITILQKIGSAPVIRRKESSEETNDFDQEVRAITNTQKSK.....MNMKQEGPF
 S2 ...MDGNRNGNGWHGMTIRDILEKVDLSNVSSANEGSGKLETQKSPV.ITVSSLPKLPATSVIQTSMPTSA
 S3 MAGVVHQSSHPQGWNGMTIKELLDKVDIDGPKPQE.....ISSKAKHEPHHS....PQQHSAY

S1 LVPQLWKDSISLENTDNFLS...NVTGEVMNLDDFLKELQV..NELAQQTDELQRHVQTFSHLSQMPHHSP..
 S2 LGPKLWEKSITISNLGLEDEEEEEEPYCDVMNMEEFLAENNIKMDIME....ER...SPESIQTIEVPVYSPSS
 S3 LGPKLWDKPIISLQQFQED.....DFFVMNIEEFLAENNIQVGNRSNHGSEA...SPEP...EELISCTSPSA

S1 ...PNHRMGHMQQEDNRFQP.LIRPANIETIKEPSHPVRPSIMHHVGKPELHMMQSTSHMDQMGTTHVSLPHRE
 S2 FLD.....SPQ.PSPQSPPTS.D.....IKPPQRPSIIMA...PK.....REHTAETKKE
 S3 VMYPNHGQGHSPTHGPPVSPPMASDHRVPIINVPSPAQRPSIIVS...PK.....DN...SPKRN

S1 GQNTLSSKDHTGHGIPQASVRPLVRPVIMSSGKHEQ...EHDLSRLEDSKPPASKRMNMSEGSAYTDEDDDDG
 S2 IL.....PKGENTFLYAESKRAKLEREK..EERRRK.....
 S3 LL.....PKGNEFLYTESKRAKLEREK..EERRLR.....

S1 SHHNFGGFTSTVCVNFSQDDLRLATIPGQEGDFDPATRFRFSEELKPPQPIIRKRRKQFVPDELKNNKYWAKRCKN
 S2LEVELDFAPEDLALATVPGL..DFDPKERAFFDMDELRPQPIIKKRQKLFVPDENKDDRYWDKREKN
 S3NQVDIDFAPEDIALATVPGA..DFDPRERAFFDVDELRPQPIIRKRPKLFVGELESKDDRYWAKRCKN

S1 NEAAKRSREARRLKENQIAMRARFLEEENTALKGEVEHLKKENSCLKQMMMALEEKLNMQMTDSR...
 S2 NVAARRSREARRLKENQIALRAAYLEKENKVLKTELDGSNFDNTKLATERDILKRLSKYESFALHK
 S3 NVAARRSREARRLKENQIALRAAYLERENTGLKKDLEDANFVNSKLAMERDILKQKLSKYETFPFR.

[X] non-conserved
 [X] similar
 [X] ≥ 50% conserved
 [X] ≥ 70% conserved

Figure 1: Calanus helgolandicus PDP1e
 S1 - TRINITY DN4162 c0 g1 i1.p1 ORFtype complete len 406
 S2 - TRINITY DN254 c0 g1 i1.p1 ORFtype complete len 338
 S3 - TRINITY DN2815 c0 g1 i1.p1 ORFtype complete len 327