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S1 .....MDTPPTGRNIIQRVGTPAPTK.....QERR.....SKSSSPSPERNMNMKQENPTFLVPP
S2 .....MVDVKKLMGRVDCLQQNQWMDY...DGAMKPLKQKEGNNWNSFPNS.....QTAPLGPQ
S3 MQAEAWTGHTQGMTIRDIIEKVDFNVNVQNSQKCTEKHLSKGQDGKTIIE.TND..P.....SSAYLGPK
S4 MEGTVWNNV....TMNELLDRIQ.....PKQPAMETAA..TLKAKLEAEPNIA..P.....ESAYLGPK

S1 LWKDSLSENI.ANDFLDSNVTGEVMKLDLDFLKLQSSDVQENM.....EDICGVQSGQQGMLAQNQ
S2 LWEKKISMSN.VDQDFK..NWQGYR.GWN.....ETQQNCQ.....NV.....GSY..
S3 LWDRQITLDLGLDLDS..ADEGSTISGLS.....CGPRSYGCLSPADGAAGASGIDIGCLSPG..CSGLGSSGM
S4 LWQKPISLQE.....

S1 DQQMHDVRNQDDPHNRYNL....IRPANIESLRESSDHNPHQQLLQDPHGHQHQQQQQLGHQHHS.....
S2 .....Q..D.....QQQHLQAMEQ.....GFQTLQQGFQTLHQQQIQEWAFNPCKIEPAKMMDT
S3 SPVFSKISIEVEPKERQRSVSSDLQVMNM.....EEFLAENGLSLD.....MDPNL..PLE..ICA
S4 .....FNEDDFVVMNI.....EDFLSENDLQKHLDR..MKCDESSEPEDEMRC

S1 .SRQLQQQDDHHGAGGISGPVRPPIVHHVGKPPELYNNHNLQENNNNSGIPQASVRPLVRQNLVSPDDHLQLHDD
S2 .....SPHSH.....HQQSMSSNPSP.....
S3 QT.NIQTNTEIRD.....VKPS.....LQ....MTRPNVIMNVPKVENREV.S...VVTAKRGLEADDD
S4 SPASLSFKSPISPEGSSMCSERPSEFVLS..PTPATP....SPRPGAATPSP....RPGV...IVSTKKEVNTDND

S1 RLS.....PESKTSLLASKRKERMRTTDDDESDDTISFNGYTSTVCVNFSQDDLRLATIPGQQQDFDPATR
S2 .....CRMETK.....ND.....DVEFKVSDDDLALATVPG..AQFDPKTR
S3 VDDPSQVTIVKRASNDFLYAESKRARLEREKAEEK....RKF.....ELELEFDPQDLALATVPG..AQFDPSTR
S4 IHQ.....QLGQERNSEFLYAESKRAKMEREKAEEK....RKL.....EAEMEFAPEDLALATVPG..ADFDPRE

S1 RFSEELKPQPIIRKRKKQFVPEELKNNKYWAKRCKNNEAAKRSREARRLKENQIAMRARFLEEENSALKSEVDN
S2 CFSAEELKPQPIIRKRAKHFTAENDKDDRYWEKRSKNNIAARRSREARRLKENQIALRAAYLEKQNMHLKVTLKR
S3 TFDVDELRPQPIIRKRRIYVPDDNKDDRYWNNRVKNNVAARRSREARRLKENQIALRAAYLEKENRVTKMELED
S4 SFNIEELKPQPIIRKRSKIYVPDSQKDERYWEKRSNNFAARRSREARRLKENQIALRAAYLERQNMMLKRDLED

S1 LKKENVDLKQMMVAALEEK.....LNQ.....LIDKR.....
S2 LNIEAHIKVNVVDHLLARIVEKQKSM EAERINN LNNNLVNNQ L I NNSNNCSTTNQLQMAN
S3 VKFDNTKILATERDILKMK..LAKYEKM.....
S4 TKFENSKLAMERDILKKK..LEKYESMQ.....

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 non-conserved  
 similar  
 ≥ 50% conserved  
 ≥ 70% conserved

Figure 1: *Acartia clausii* PDP1e

S1 - TRINITY DN5258 c0 g1 i1.p1 ORFtype complete len 415  
 S2 - TRINITY DN58787 c0 g1 i2.p1 ORFtype complete len 324  
 S3 - TRINITY DN4264 c0 g1 i4.p1 ORFtype complete len 394  
 S4 - TRINITY DN4005 c0 g1 i1.p1 ORFtype complete len 327