

```

S1 MAVQSLWSGLHMKELLDRIEVPTKMESGPIEKQGKVEVEMMPTAESAFGLGPKLWDKSSISLQQLNEDDDFFVMNIDD
S2 .....

S1 FLAENDLQKDKFGKALKENESPEPDEMRCNTNLNNLNIKPDSP.S.D..TNEENSMDSILPQAWMEVLNAP.SPR
S2 .....NLYPHQHPVQDVQIHHQPPKEHGIPQASVRPLVRPVMPS

S1 PGVIVSTKDCKRNMLPKGENTFLYAESKRAKMEREKEKMR.....LEISMDFAPEDLALATVPG
S2 PEKF.....ERSNSTDYGPNSE....KRTMSTHSDDEDMEDGSVEGDEDDGFQGGFSSSLVNFSEDDLRLATIPG

S1 ..ADFDPKERSFDVLEELRPQPIIRKRPKIYVPDMEKDDKYWDKRGKNNVAARRSREARRLKENQIALRAAYLERE
S2 QGQEFDPSTRRFAEELKPQPIIRKRKKQFVPDELKNNKYWAKRCKNNEAAKRSREARRLKENQIAMRAYLEEE

S1 NNVLKRNLEDSSFENSKLVMLEILKKKLAKYENTIA
S2 NNALKGEMEGLKKENTDLKQMMVALLEEKLNQLAESR

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

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Figure 1: Centropages hamatus PDP1e

S1 - TRINITY DN1673 c0 g1 i8.p1 ORFtype complete len 315

S2 - TRINITY DN34183 c0 g1 i1.p1 ORFtype 5prime partial len 216