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EmuJ_000388600.1 -----MHVIFQSSPNNVSRKMERITIE----- 22
P27454.1 MEYGLISKFYMDHWRWKIREKHKVENLLSTYKYLNFHYHMHVPHYLRSTKGGPNRVMNSVCVEHS PCEHGNLFCECIYCWEHGDQCRGRK--LDLGAST 98
Q90185.1 -----STEYIRGINEGRVSSMESVCSVEHS PCEHGNIECECICFWEHDAQCKSRRELDDLGEPT 58

EmuJ_000388600.1 -----CGVPLQAVPDI-----KMTKQLVRNVLTALIRYMRGRGEVVA-----TDDHFD 64
P27454.1 GIERRLANDNQPLGSLDYCTETIHLATAIPERRITDRENYVKDFAGCTVGDLYPOLQGSTGASEPIDFAFPTVVGSGWEILVRESHKHFENYTEAYQ 198
Q90185.1 GSERGMANNYEQSRNEDLYCTETVPSAAL-QANTITERDIREDFTDCTVDNIYPQLHSGSRASEQLFAFPTIGTRSWEILIRQSYEHLKPDYKEEDFQ 157

EmuJ_000388600.1 HFLQ-----VATVLSLEWPNCSVIPSEN-----RMNKSACEEDKREVKR 103
P27454.1 SHIRSVRRRLFPEETMDNNGSQASTTEMLRDAVQRCGFEGPPNSPSENNRDIDGTICISTVDIQ-SNCIVNAHCPKQGTSTNQTNKRKSTDTTSESSESKK 297
Q90185.1 SHIRSVRRQLFPEKTMNNGSQASTTQMLRDDIERCGIESIADSAEDNGDVGDTICISTVDIQ-GNCIVNAHNEQATGSKT-RKIRATTPSESSESKK 255

EmuJ_000388600.1 QRY-----IDLAEETMRRKVRSMNDMKNKFTY-----QETFRILMA----- 138
P27454.1 NKSNNYQNLQEQGSTS-ISDTIDIVDGLDGTSGSNRETAYTFVFLHKNNVKEDWRYIATTRAKQAPSFTTFDGHGDIHILFSSSNTGGNSTRVTRIT 396
Q90185.1 HGSNNQNIQEQSSTTALADGHDIVDGLDGRSESNRETAYTFVFLHKNCKEDWRYIATTRAKQAPSFTTFDGHGDIHILFSSSNTGGNSTRVTRIT 355

EmuJ_000388600.1 -----DYEQSNM-IVRKALETVRTM-NVAHQRAVDYMDLLKEELDN-----VRNGCPSHL---CAYPKNHSGPSRKS----- 202
P27454.1 KFLSATSAGSAEATITFSKVKFLRNMILYCYTRYGIEFVNIYGNKIQQLTEAMDTFKLVLFENRDPNDVILEAGCKLYHEEKDNKQKRCGQRKQNLTDI 496
Q90185.1 KFLSATSAGNAEATITFSKVKFLRNMILYCYTRYGIEFVNIYGNKIQQLTEAMDTFKLVLFENRDPNDVILDAGCKLYHEEKKEYQKRCGQRKQNLTDI 455

EmuJ_000388600.1 -----TQWLEDMESANE----- 214
P27454.1 ILEKIKEKKITTAQQWENQIEPEFKIQLMKEFGLNVDYSYVTRIVRIERTRIQQLIKAKTLTEIMLEILNDEYIKHFPTGEDNSKTAKCHEWTEYLFKKN 596
Q90185.1 ILDKIKEKKITTAQQWENIEPEFKIQLMKEFGLNVDYSYQRIVRIERTRIQQI IKS KTLTEIMVEILNEEYIKNFTPGEDNSKLNITQWLEYMFKKN 555

EmuJ_000388600.1 IAVVDFAITLRLIMNCEDEKINTLVLYGPTNTGKSLICRLTTTFLEHGSVMRROEASAFAYENLLNRKVALMEEPRIICANQODLQQLGGEPPFEVHIKY 314
P27454.1 INI IHLAWNELIKTKRYKINGMVLGEGITNAGKSLILDNLLAMVKPEEIPRERDNSGFHLDQVPGAGSILFEEPMITPVNVGTWKLLEKTIKTDVKN 696
Q90185.1 INI IHLAWNELIKPKRYKINGMVLGEGITNAGKSLILDNLLAMVKPEEIPRERDNSGFHLDQVPGAGSVLFEPMITPVNVGTWKLLEKTIKTDVKN 655

EmuJ_000388600.1 QNPDLERLPLVIVITNEPLGVRLSDVDAAAEGRCKLYTLDKQI-----CNANIDGSVPA-PPYKLCACDMAHLLLP---IYELLAL----- 392
P27454.1 KDKEPIERTPTWITTAETPTNNIDMNETSOLLQRIKLYILKRSIQHRDDKYTINAQIQNKLSRPPLEPIHMAIVFVKNFYKLYNLAEDKAHTVNE 796
Q90185.1 KDKEPIERTPTWITTAETPTNNVHMNETSOLLQRIKLYIFKRSIQHREDKYTINAQIQNKLSRPPGLVEPIHMAIVFVKNFKEIYKLYIEEDNAHTVNE 755

EmuJ_000388600.1 ----- 392
P27454.1 KAIQINNEVKEEAEWQTALQWMTTENNEEQENETQALEDQVLELAKEQATT 849
Q90185.1 KAIRLSEEAQEAEEWQTALQWNTMEEEQKENEKQT---EDQKESSEKETATQ 805

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Additional file 3: Figure S2. Alignment of dengovirus NS1 sequences. Identical amino acids are shown white on black background, biochemically similar amino acids are shown on grey background. The black line indicates the position of the Parvo_NS1 domain (PF01057.17) in EmuJ_000388600. EmuJ_000388600: *E. multilocularis* dengovirus NS1; P27454.1: *Aedes denonucleosis virus* NS1; Q90185.1: *Aedes albopictus parvovirus* NS1.