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AgseGV -----MAEKRAIDELLDLVESNNKKQ-----QS-SSR-----LYVPKLNEEQQRIDYDVYTR-VKFKAPIFVSGSAGTGKSALLIAIRDWCRAEKKVVVIVSYTNLAARNIEGK
ChocGV -----MLSASKNWPIKVFVTMDQSLCYTAAEEEK-----IYSEKND---TPINAKRKRKIE-----IKYSYKLNKKQQQIFDILTEKEIYFKPVFVSGSAGTGKSALLITLREHWQGLQKIVVYVAAYTHLAARNVSGK
CrleGV -----MTEINSFCIVAAEEK-----NYTATN---VTKR--KRIER-----LQAPTTLNKEQKYLFDKVD--THNFSPFVFTGSAGTGKSALLMTRLNRYWRNQKTVFVAAYTHLASRNIDGK
CpGV -----METDSFCIAAAEKRPINQSVIKGNNSGGDD---AVKRV--RRIER-----VDAPTCLNREQQLMFDRVAN-ARRFEPFVSVGSAGTGKSALLVALRNHWREGRKIVYVYAYTHLASRNIDGR
EpapGV -----MESVPLTRTIEPEETVESIAEHLKQY-----DEKFNTR-----LQKPVTLNQSQQKLFDFYVVS--RQEFEPFVSVGSAGTGKSALLLALQKRWEDDKKIVMVAYTHMAARNVNGT
PhopGV -----MNKIMIMEVPPKRR-----KTE---EGPNEDKFRHY-----LVTPKLNASQQQIFDYLRLAR-AQKFDPIFVSGSAGTGKSALLIALDRHLLQKFKFDVSVAAAYTHLAARNVIGGR
PiraGV -----MDQDLLSTVAENK-----KLIKMI---ATKYNNKQIKR-----LSAPSSLNAKQQHFLNFLVN-SDYFEPVSVGSAGTGKSALLITLRYNWRQGGKIVFVTAFTHLAARNIDGK
AdorGV MVTTRLATKLLKKEKRELSKAVLRAIKTMDASTCTSLDNMTTSVSTCTTSHDIVRSDSPIYEDMDTDSEVQLNCVTDES LRNKINNNLRQKRLFDYVTS-VEKFTPIFVSGYAGTGKSHVLTIVRDKYI QNKLVYTTAYTNAAARVVEGK
HearGV -----MKRQAVCNKDQE-----DTKRICR-----LDAPTCLNREQQQIFDYVVTQ-RDSFEPFVSVGSAGTGKSALLKSLRTHWIDRKKVWVYVYVAAYTHLAARNVDGQ
PlyxGV -----MKRCNSVDAEEG-----GK-IMK-----LEVPLTLNEQQQKIYNYLTS-VDCFEPFVSVGSAGTGKSALLVTLTKAWTMKNMRVDVGTYYTNLAARNVNGK
PsunGV -----MKRQAVCHEKQQ-----DTKRICR-----LDAQAQLNEQQQRIFDYVVTQ-RSSFEPFVSVGSAGTGKSALLSLRTHWIDRKKVWVYVYVAAYTHLAARNVDGQ
SpliGV -----MKRSSLSASEEDGV-----CANKLCKK-----ESAPTTLNKQQQQLFDYVVTQ-TKEFGPIFVSVGSAGTGKSALLRALQSHWKN--KTITWVTTYTNLAARNVNGT
XcGV -----MKRQAVCNKDQE-----DTKRICR-----LNAPTKLNREQQQIFDYVVTQ-RDSFEPFVSVGSAGTGKSALLSLRTHWIDRKKVWVYVYVAAYTHLAARNIDGQ

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AgseGV TIHSMFKFDFNLNI--SNYRINAEFLIIDEISMPAKMLNGIDAQLKRSTG-EDAAFQGVNTIVFGDLYQLPPVENR--RQNFLLPPYHSHAWSDFRLFNLTINMRQSEELFIKALNLLRKGDAQCDFFNNSKVIDQEPCKEELINCT
ChocGV TCHSLFGFDFDLNLVKT--YVGLPNYLIIDEISMIPEKMLDKIDSLRQRNSGNRYTPFGGVNVIVFGDLYQLPPVTK-----TSDYLPYKADVWQCFRFLFELTENMRQSETDFINNNLRLRIGDNTCLSYFNNMVLKTPQSLEKLLYT
CrleGV TCHSLFGFDFKLNLDK--NIGIPDYIILDEISMIPEKMLDGDIDSRMRQVTRPQKPFQGVNTIVFGDLYQLPPIED---KRDMLTPPYADLWSVFKLYELKHNMRQTEAEYIKNLLNMRSGEISCLKFFNTLVTKFSIGIEDLLVHT
CpGV TCHSLFGFDFDLNLTDK--DVGVPNYIILDEISMIPEKMLDGDIDSRMRQVTRPQKPFQGVNTIVFGDLYQLPPVDKNNYKREKVLPPYEAADVWTEFKIYELGENMRQTEQEIYHNLLRLGDFSCLPYFNTLVMDFAPIEIEKVAHT
EpapGV TCHSAFGDFDLNLK--SYICNPVNYLIIDEISMIPEKMLNGIDEKLRNTG-VDKPFQGVNVIVFGDLYQLPPINDE---KNNKFPFYSRVWNSLSLYELTENMRQTEAEFIANLMLRVGDIRCKKFFD-KLVTKPLLISESVKCT
PhopGV TCHSLFGFDFDLNLIDR--CISIPHYLILDEISMIPEKMLDGDIDARLRTTRKRYDQPFQGVNIIAFGDMYQLPPIDT-----N--EPIYMSDVWNTFRLYELTENMRQSEHEFITNLLRVLGDLNCLPYFNTLVMDFAPIEIEKVAHT
PiraGV TCHSLFGFDFDMNITDK--RVGLPDYIIDEISMIPEKMLDGDIDLRMRQNSRNFELPFQGVNVVAFGDLYQLPPVNN---RINYTLPPYESDVWNLFLKYLLENMRQTEPEYIKNLLRVLGDLRCLNYFDLSVSNRIPTVEKVAFT
AdorGV TCHSLFGFSFGDHDAN-HTIKLPDCLIDEISMLPKMLEGIDQVLRNCRNATNDIFGGVNVIIIFGDLYKTPQPVVS---YNNTLPCYKSELWHLFDLYMLNQNMRQTEEEFMTNLLRGGDAKCMNYFNSLEICTVNDKQDLDY
HearGV TIHKQFGDFDKCNLNNKTVGAPNYFILDEVSMVPKMLQNIHTFFQONTR-MDMPFGGVNTIIFGDLYQLPPISN---QQCYQLPPYCADIWKSLRLYHLTINMRQSESDFDALNLLRVGDKKLEFFNQKVMHDNITIEDQFECT
PlyxGV TLHKLFGFDFKMLER-SNFCFNAPDYIIDEISMPKMLAGIDERLQAGL--NGIPFGGVNVVFGDLYQLPPISN---DKDAKPPYASVWSSFKLYELTENMRQSEFIDALNLLRVGDLTQCKFFNKQVLLKPPSIAEKLQCT
PsunGV TIHKQFGDFDKCNLNNNRHAGAPNYFILDEVSMVPSKMLQNIHTFFQONTR-LDLPFGGVNTIIFGDLYQLPPISN---QQCHQLPPYCADIWKSLSLYHLTMNMRQSESDFIEALNLLRVGDKKLEFFNQKVMHDNITIEDQFECT
SpliGV TLHKQFKFNFKGEMN-TNACVGVPNYIIDEISMVSSKMLQIHECLQNTQ-VDLPFQGVNTIVFGDLYQLPPIST---AKDKSLPPYHADVWKEFKLELLENMRQNEKDFIDALNMLRIGDSRCQKFFDDKLVQKSPSVEKLNIT
XcGV TIHKQFGDFDKCNLNNKTVGTPNYFILDEVSMVPKMLQNIHTYFQONTR-MDLPFGGVNTIIFGDLYQLPPISN---QQCYQLPPYCADIWKSLRLYHLTINMRQSESDFDALNLLRVGDKKLEFFNQKVMNHSITVQDQFECT

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AgseGV SLVSTHLEANLHNNICYEYVKS KSKDKK-EYQVKLIKLTLEKRHTT--SMPYNSQEEIMFKDNIKYCVGTRVMITLNRVDFVGENSFCNGDIGTIVQVS-DECLTIKREWDGTERKLTMHGVLFEFE--DKNVLKTVYGLPITYGWAVTI
ChocGV SLVSTHSEANLNQCYNYNKSNE----EFLCDISTHTTKWRN--MLCFNVDQENLIFPQNLKVRKGTTRVMITHTNDS-----FCNGDLGIVESFKEHE-IYIRREHDDAIGVLRKRRTLYFNYS--TKGMVKQVIGFPITYGWAVTI
CrleGV SLVSTHREADDINMQCIYINSEEKE---EILKSTSSLVSWNFY--LNVFNTEQEKLIIFRDSLKVKGTTRVMITHTTGD-----FCNGDLGIDNITDKG-VMITREHDNKNLFLSPICLNFYNS--IKNTVKQVGTGLPITYGWAVTI
CpGV SLVSTHDEANTINNECYNFVNEA---ETTLKCTTKLVPWSYK--VNVFNAQQRERLIFKQELQVCPGTRVMVHTHTQH-----FCNGDGTGIIIEYITDMG-VYIRREHDSLQILGPIITLHFS--SRGYKAVTGIPLNIGWAVTI
EpapGV TLVPLNYKADIVNINCYKIRGLNK-KAEYTVKIEQHILRKTFFENSRI LFTKKQEEIMFQPGMKFCVGTTRIMATQNING-----FCNGDVIGVTEVDPEVGPLIKREHDGRSMWLTKATVMFSTD--DKQYVKMITGLPMRYGWGGTV
PhopGV SLVSTHREADEINDQCYEAIADKES---ETVMESTHEMVWWSYK--ATVFNKQEKVVFVKDKLVCIGTRVMITHTSTQH-----FCNGDMGTIKYISETAGLGIEREHDSVLSYLLPIKLNFNAN--TSGKMKQVGTGLPITYGWAVTI
PiraGV SLVSTHKEADNINLQCYSIADREQ---EIVHTCETKLLPWSHK--ITVYNADQELIFKPNIKICPNTRIMVHTHTQH-----FCNGDMGTIKYISETAGLGIEREHDSVLSYLLPIKLNFNAN--TSGKMKQVGTGLPITYGWAVTI
AdorGV TLVSTNQEANNINIKYCNLFYRYP---EMVYRLHSHQVHRDTC--DIYNECQKMSIFRHYIKLKADTRVVVTFHTQ---FVCGDIGTVVAVNPNPNS-VVIRKIDDKLYTLTYNITLHFYPPGNVHRYIDAIGLPINAWAITM
HearGV SLVPTHREADYINSKCYAHIKTISEEPVVEYIILQSVRRESRRLHS--MMVYGSQEEILIFRDKLKYCVGTRVMITHNLKGL---AFCNGDIGTVIAID-ERGVIVKRECDGLMEKINMVEIAFETD--KYTIVKVVGTGLPICYAWAVTI
PlyxGV SLVSTHKEADFNNNLCYNHIK---KNKD-EKTIELKEQYARFKH--DIVYANQEKIIFKDGMYCVGTRVMITHTQTP---TTTLNCGDIGEIVSID-DEKLTQRECDGQKFDVCOMTINFETS--NYHTMKCVTGLTICQAWAVTI
PsunGV SLVPTHREADYINSKCYGHIKTISEEPVVEYIILNLSVRRERPRM--LMVYGSQEEILIFRDKLKYCVGTRVMITHNLKGL---SFCNGNIGTVMDID-ELGLVVKRECDGQERINMVEIAFETE--KYNTVKKVGTGLPICYAWAVTI
SpliGV SLVSTHNEANAINQCYKRICIDKE---EHTVELSVEKTNRGRD--MIVFNQNDIMIFKDKMYCVGTRIMVTHNVAG---VFCNGDVGEIVGIE-ERGLVIKREYDRVLVLSMIELAFD---NWRVTVTLITGLPMCYAWAVTI
XcGV SLVPTHREADYINSKCYAHIKTISEEPVVEYIILQSVRRESRRLHS--MMVYASQEEILIFRDKLKYCVGTRVMITHNLKGL---AFCNGDIGTVIAID-ERGLVVERECDGLMEKINMVEIAFETD--KYTIVKVVGTGLPICYAWAVTI

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AgseGV HKAQGMTRLNLIIVYPAKTFVAGQAYVALSRATHCDGLIIVDP I PANSIKNMREVDKYVEEQIKFQFTEEEPEEETVLYKESIFN
ChocGV HKAQGMTLKLNLTVHPLRVFVPQTYVALSRVTHSKGLKLAAPIPDSAFYDMSFVTLVYKSMPEKIE-----
CrleGV HKAQGMTIKNLIVFPKCLFAPGQAYVALSRCTHSGKGLKLSCRIPDEGVKDMSPITEVYNSMEKWC-----
CpGV HKAQGMNTIVNLIVNPKCLFAPGQAYVALSRVTHCSGLKLSIPERHISVYMNVDTKIYESMKNLVE-----
EpapGV HKAQGMTVKNLIVYPLRVFAPGQAYVALSRSTHSMGLRLVDRLPNTAVCSMFVETEMKMKRKF-----
PhopGV HKAQGMTVKNLIVYPLRVFAPGQAYVALSRSTHSDGLNLVSAIPEKAI SNMNFITKVYGAMEKFN-----
PiraGV HKSQGLRIKLVKTDNVFAPGQYLSAISAKQNSSNLKLVNKITEKVIYNMDSHIERVYNNMKNLIL-----
AdorGV HKAQGMTVKNLIVHPVNI FAKGQTYVALSRVTHCEGLRLVNI PVCEVMKMSDVKVYATQDLDLTYND-FEEEFYDI-----
HearGV HKAQGMTLKLNLIIVPERTFVEGQAYVALSRVTHCDGLKLVNKIPDSSIIEMRETQVYKNERLSLE-----
PlyxGV HKAQGMTVKNLIVHPLNIFAKGQAYVALSRVTHCEGLRLVNI PAECIMKMSDVKVYTTQDLLTIDNDGFEEEFQFEFDI-----
PsunGV HKAQGMTVKSVIVHPECEVFAKQAYVALSRVTHFEGKLVSPKPKKIKKMKDVKIYTSQRPRLIL-----
SpliGV HKAQGMTVKNLIVHPVNI FAKGQTYVALSRVTHCEGLRLVNIPEECVMKMSDVKVYATQDLDLTYND-FEEEFYDI-----
XcGV HKAQGMTVKNLIVHPVNI FAKGQTYVALSRVTHCEGLRLVNIPEECVMKMSDVKVYATQDLDLTYND-FEEEFYDI-----

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**Multiple alignment of Betabaculovirus Helicase 2.**  
Multiple alignment were carried out with ClustalX v.1.64 using default parameters. Columns shaded in light blue correspond to identities and columns shaded in light orange correspond to conservative changes.