

Human herpesvirus 6A isolate AJ, complete genome

GenBank: KP257584.1

[FASTA Graphics](#)

LOCUS KP257584 156714 bp DNA linear VRL 24-FEB-2015

DEFINITION Human herpesvirus 6A isolate AJ, complete genome.

ACCESSION KP257584

VERSION KP257584.1

KEYWORDS .

SOURCE Human betaherpesvirus 6A

ORGANISM [Human betaherpesvirus 6A](#)
Viruses; Duplodnaviria; Heunggongvirae; Pervoviricota;
Herviviricetes; Herpesvirales; Herpesviridae; Betaherpesvirinae;
Roseolovirus.

REFERENCE 1 (bases 1 to 156714)

AUTHORS Dewhurst,S., Dollard,S.C., Pellett,P.E. and Dambaugh,T.R.

TITLE Identification of a lytic-phase origin of DNA replication in human herpesvirus 6B strain Z29

JOURNAL J. Virol. 67 (12), 7680-7683 (1993)

PUBMED [8230490](#)

REFERENCE 2 (bases 1 to 156714)

AUTHORS Turner,S., DiLuca,D. and Gompels,U.

TITLE Characterisation of a human herpesvirus 6 variant A 'amplicon' and replication modulation by U94-Rep 'latency gene'

JOURNAL J. Virol. Methods 105 (2), 331-341 (2002)

PUBMED [12270665](#)

REFERENCE 3 (bases 1 to 156714)

AUTHORS Tweedy,J., Spyrou,M.A., Donaldson,C.D., Depledge,D., Breuer,J.
and
Gompels,U.A.

TITLE Complete Genome Sequence of the Human Herpesvirus 6A Strain AJ
from
Africa Resembles Strain GS from North America

JOURNAL Genome Announc 3 (1) (2015)

PUBMED [25676750](#)

REMARK Publication Status: Online-Only

REFERENCE 4 (bases 1 to 156714)

AUTHORS Tweedy,J., Spyrou,M.-A., Donaldson,C.D., Depledge,D., Breuer,J.
and
Gompels,U.A.

TITLE Direct Submission

JOURNAL Submitted (08-DEC-2014) Pathogen Molecular Biology, London School
of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT,
United Kingdom

COMMENT ##Assembly-Data-START##

```

Assembly Method      :: Velvet v. 1.2.10
Sequencing Technology :: Illumina
##Assembly-Data-END##

FEATURES             Location/Qualifiers
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                        /mol_type="genomic DNA"
                        /isolate="AJ"
                        /host="Homo sapiens"
                        /db_xref="taxon:32603"
                        /country="Gambia"
                        /collection_date="1987"

     repeat_region  1..8156
                        /note="DRL; contains pac1 and pac2 sites; left end
                        imperfect tandem telomeric repeat array, right end perfect
                        tandem telomeric repeat array; direct terminal repeat with
                        DRR; can mediate DNA cleavage and packaging into preformed
                        capsid"
                        /rpt_type=direct
                        /rpt_type=terminal

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                        /gene="DR1"

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                        /note="DR1L; direct repeat of DR1 in DRR; contains CXC
                        motif; DR1/DR6 gene family"
                        /codon_start=1
                        /product="DR1"
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                        SHSVSLFLKTGLRHCEAIYRAPLWRDRPLPSLWTCRDPDKAFLPTLLARSARRGLAAF
                        YALWRLHLGSRSELSPVLEWERTELVLTDWRRGRPCHTLPSDSRSQRATSSGATNTR
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                        EGGPVLAVDLNDTSVWRIADDLELLRRLGNLLLVSGLRPLHLPSGSGEAAAGEPGYDQ
                        EERRGRASTASATAATSTRGPTRPTRVTRKGRVATGGVHLPARPESEEQTGDHGHGRQE
                        SSHDDQRGGSERGHRDDGAHRHANЕКТЕPQQRGEHEEGKQTNSGRHEHGQESHVARRD
                        EEGTEQGGSGRSCGATQTYGGRGRHDSCPSIPLSVPGDPRLWVPPAHLFPSPPLPP
                        MTPVDDEFSVRPRRPPSPAEEPPTCRPRPPRPSSDTPLSAVSRPSAPPVPPPSTARVR
                        FFLSSSSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSPSP
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                        gene             4792..6812
                        /gene="DR6"

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 /protein_id="[AJA36218.1](#)"
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 SSTTEFTRRGLQRDAVTYEEDLELPDQRMCGTNARHLFDVIAAAADEHNLLTVGGLCQ
 THAGVCCNLETVGDPWTAVPGARMTLTVPQVQYRLWPEARRDLRRHLYAGHPLGPWL
 VCGVLSRERETQRPSPPICSGGATVGNVATPGPREVEIVVWVLTLAGPLLAFWPDTGK
 ICRLANSFSTLWRMGPRAMRGHWTSAPGRHLPGDWPLCEHVRPQVGKLPKRKRAYLD
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[misc_feature](#) 8157..148558
 /note="UL; long unique sequence"

[gene](#) complement(8772..9872)
 /gene="U2"

[CDS](#) complement(8772..9872)
 /gene="U2"
 /note="SHL1; similar to HHV-5 UL23 tegument protein, HHV-5 US22 gene family; US22 like; Region: US22; pfam02393"
 /codon_start=1
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 /protein_id="[AJA36219.1](#)"
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 RRYGCCPGMDLTVIGVTIFAEVSALVLVGECEIYAFNGVFDDALYRLAEDAFGLWKH
 GLRRFEPVYGSKCLTETGASFFGGMSGVDDALAFVAFVFDKALVPLPWPRGAFFFAVP
 GRPEKRWRLIPGGGVAVVIGRFFGRGVTSPLLRQRVLMDQDGKVYAASLDGGAVVRL
 SDSFRAFLAMGVRKLFKNHRFPPGHLWTMQLPVTCVHAPVIDLPVAVYQLSPHMVERGM
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[gene](#) complement(10209..11330)
 /gene="U3"

[CDS](#) complement(10209..11330)
 /gene="U3"
 /note="SHL2; similar to HHV-5 UL24 tegument protein, HHV-5 US22 gene family; US22 like; Region: US22; pfam02393"
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 /protein_id="[AJA36220.1](#)"
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ALRWPKNETLLFHRRRDSFAFVMCDEARRRLAEMCFFGSGFYKYFGDEGRISLYVTTD
GQIFGFNDNDEDGRPRFVAEDFQQFRRIGVTQYYKSYVFRREQPEWALLPTCHLSRMF
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[gene](#)

complement (11549..13156)

/gene="U4"

[CDS](#)

complement (11549..13156)

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/note="U4/U5 gene family; SHL3; HHV-7 UL27"

/codon_start=1

/product="U4"

/protein_id="[AJA36221.1](#)"

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LERLTFEDETSTVFYRLLTKCTALAHFSILEYIVDGEKRDITSAHFNRLLELLDLSFLQ
FLMLNRNSESNTLLTLFDILPNPKEIYGDAASPTSVLLKHFLSDHIFVAYASSYRFVS
SVLCSCDQCRASLFRIYLGKKDSRAVHISDISEFDPADLILGQLHLDAREAVLRAEI
DRDLGSSLILNSMERRHLPILHDKQLGRGHFERNILKVYCNIVLCLFLLRRVKQRIVS
DLTAIARFFVKAISEMERCIDTVSGLRGVRIKLLVVSSQFEIKDPMRVPRLCFFFL
EIVAILVSGYDKERHRVRALLEHLCLKICLDLCASMLAREIRHVDLEGFLNTLELSY
MSNPVRFFRFHDCNLYGTHMWSGVYPNVVPYAVRGGGSFDIRLQEHRRRQKRIVVRR
LIRRVQQRGLDIREARRVPKPACVTFI"

[gene](#)

complement (13278..17154)

/gene="U7"

[CDS](#)

complement (join (13278..14922,15011..15986,16092..17154))

/gene="U7"

/note="SSL2; similar to HHV-5 UL28, HHV-5 US22 gene
family; US22 family; exon 3 is related to U4; US22 like;
Region: US22; pfam02393"

/codon_start=1

/product="U7"

/protein_id="[AJA36222.1](#)"

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NLMNNDVLRSPYTLNVHVKLNRKGVLGKAMRKHYIAMLREFDELARCASLDDVERFV
SLNIGRDLRLDMPVFKSLTLGTRDSVWTATCRLANLKEQEDLVEKVVLGYLNDHDYE
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RFGRMSTLGMSETYQSCMSLKIVPVCNDEFALSSCVPTLDFDVDVLSAAYGDGLEISS
PGLRCCIAWPPMYALTGFEFYHFHTRWVSAYDWSSLLDADEFMSAVGYAHPYIRDPN
PDYDPYVMHTSTGKTIADVTVTEKVYIIAESLVQFFNIGLRQFPFAEAEELDPEQEKM
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RGFDELLYKEKYSLDWSDDTLFYISDTETENLNRMNLNGELPVLRSKPRHMCVRKDRLV
KDRSKILFAVRLDEEDSPTVKFITKFLTPVVFVGRLPATNRFVVPVSRARLTNGLQGT
AARFGIKGLHPSSDCLVWNILLDYEYETYKYPSTYIRADQIADMVKGLKFMDNFNEKW
QCITKLAFLGLYAGASLFNFTSKPTLGWCRYLSEYASMLLFQFESKLELTKESTRQ
LGGYNLCHWGQELKDCLENKSDVFFRYDFFERIESCLIEHFMLLCGCVECRMFMIMYN
KRGRKFDFGHSVRIQCFFPMIGSIRLPAFLHLGEPYDVSLSLIAKDLGLSMIEGQIEL
SRLPISLQISVTPDKKALLTFLTNIIVFIVFVNTLYRVINAELDIYYDLFTEEVGKLC
VAMEEEMKLGRNGCLGDLCYFSPMKQKEIVRCPGEKSQFILKCWEALRIGFSVPAYK
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[gene](#)

17667..18977

/gene="U10"

[CDS](#)

17667..18977

/gene="U10"

/note="SFR1, PIRF0; HHV-5 UL31"

/codon_start=1

/product="U10"

/protein_id="AJA36223.1"

/translation="MEIVTYKTVSARSPTVTWSSGFGRAIASIQKRNDNIRKPLRFY
SGLLHCLIKQYEHCLVPPNKSIRFDKGKIEVAALILD LGHQVLGRQIHVRQRIYSWTS
ITLPKLFTPKELYFLVASPGEENIAFNPTITKGGWISGSFSYPVDYRSNFSLTGMSAN
ILMVFPVPYKYPLNYARFISSIDLMLNEQFPEHECGDIQILKQRNYLYLGVIKNLTW
KKSVTGTGQTAPHRILKASFIGSWPDTSLPDRVALRFFNNTRFTIHCHESININENLG
LVKNKEKVFGTLATVCCEQIPSLLTENLPRYLIVQFEVVTQIEEPEPLLFSSNPPLY
FTGDVLNATIQLQHNPSYYELLVHAPYDIHFYPSRCHIVILPIRYFTKPKQILISGY
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[gene](#)

complement (19029..21644)

/gene="U11"

[CDS](#)

complement (19029..21644)

/gene="U11"

/function="major antigenic structural tegument
phosphoprotein; binds capsids"

/note="PILF1; HHV-5 UL32"

/codon_start=1

/product="pp100"

/protein_id="AJA36224.1"

/translation="MDLQRHPIPFawLDRDKVEYLtNfLSNLERLDNVDLREHPHVTN
SCVVREGEDVDDLKtLYNLLVLWLMYHYVLSKRKPDYDAIWQDITKLQSVVNEYLKSK
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SQIVITQNHLSGHLRRHDNFNIVYSHRVLQTPLTGQRVESFLKIITSdyDIKSSLES
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FVLNNSDVAGSEAKHTTYSTETGVSPRNVFLIKDLRGKDGFRKQKQSDIPKSLTKERN
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KDFLHFGGNAKKKEMSGKFNVDKEMTRNGQEPSRSLMGDARNAGDEQYIQAGLGQRVN
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[gene](#)

21746..22878

/gene="U12"

[CDS](#)

join(21746..21778,21868..22878)

/gene="U12"

/function="G-protein coupled receptor; like CC chemokine
receptor; inducible signalling"

/note="PIRF1; unspliced ORF U12; similar to HHV-5 UL33,
US27, US28 and EBV-induced EB11; similar to all GCRs"

/codon_start=1

/product="GCR"

/protein_id="[AJA36225.1](#)"

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MIIIVVTMILYHRVAKHNATSFYVITLFAADFVLMWCVFFMTVNRKQLFSFNRFCCQ
LVYFIYHAVCSYSISMLAIATIRYKTLHRRKKTESKTSSTGRNIGILLASSMCAIP
TALFVKTNMGKKTGKCVVYISSKKAYELFLAVKIVFSFIWGVLPMTVFSFFYVIFCKA
LHDVTEKKYKKTFFIRILLLSFLLIQIPYIAILICELAFLYIPQNTCFWLARVEILQ
LIIRLMPQVHCFSNPLVYAFTGGELRNRFACFQSFFPKTLCSTQKRKESDVSEHDQN
SKSKASVEKNQPL"

[gene](#)

22964..23284

/gene="U13"

[CDS](#)

22964..23284

/gene="U13"

/note="EFRF1; positional counterpart of HHV-5 UL34, but
much smaller"

/codon_start=1

/product="U13"

/protein_id="[AJA36226.1](#)"

/translation="MAHAKKRVRRKLLTSTDDPILSNTFTMRPTSKIADAEIISREHD
YIASKTQTDSSKISPLSVILDKTALFEFYGIGDNNEKAIVYPIDPDFLLCDSEHNCTL
SPFL"

[gene](#)

23380..25209

/gene="U14"

[CDS](#)

23380..25209

/gene="U14"

/note="EFRF2; similar to HHV-5 UL25/35 gene family,

tegument protein"
/codon_start=1
/product="U14"
/protein_id="AJA36227.1"
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VKLINTTLNSFHNRPDADIEQYAQKLRAINYLYKIPHYTLKEAVDVYSENKDLSIGV
NKKPTLLFTSSDDGYLSHIFNDMLFLTSTWNMIYNSKVQIRRLTTWIKYEINSILED
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LPTFIKSHLIEFEDVLKRSNDDDLNLLLLKSNDSDDEYDEDKLPQVDPGRVDNVL
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gene

complement (25243..26051)
/gene="U15"

CDS

complement (join (25243..25428,25589..25661,25735..26051))
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PIKRKLIVLLYMLTSRQEKQLFLNMIYAFLEKSHLRLGDDEEKNAIRFFSYVDDLHLT
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gene

complement (26312..27402)
/gene="U17"

CDS

complement (join (26312..27087,27174..27402))
/gene="U17"
/function="apoptosis; inhibitor of caspase-8-induced
apoptosis"
/note="EFLF1; similar to HHV-5 UL36exon1, HHV-5 US22 gene
family; ORF contains U16 exon1; region IE-B, immediate
early gene; US22 family; pfam02393"
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/protein_id="AJA36229.1"
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IDDLVQLSIDAQDNLWKFATIVYKNSGRHYIMKSCLENNDGVFVFLTRKEDFPSRME
WNFFSDVYESMPYHGQVIGSIGKTLTPKTMFVMDLSGAIYGIDTIGTGIGSCVKIA

DDFESFLRQGIVRGYRRYKFFHRNISTVQEILPLCPHTSLGPTFSNNYNDLSSSEDDE
"

[gene](#)

complement(28514..29395)
/gene="U18"

[CDS](#)

complement(28514..29395)
/gene="U18"
/function="glycoprotein"
/note="EJLF6; similar to HHV-5 UL37 exon3 immediate early gene, HHV-5 IE glycoprotein; region IE-B"
/codon_start=1
/product="IE glycoprotein"
/protein_id="AJA36230.1"
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TCHVNGVLAGNSSCVSVKTSYLINLAMLTNGFKDMRVGNITSISEKTAFLRVIINYYF
RGVMLRALIAKRLPNAHLSSTVNCWLDHDSAGGVMTLFYGTERIVLNSSTEINASRW
ISDGKDANGTLNILNERVSLDSYFLSRICPQLSSEIYKKKVAHPKNFSLIKNDTKPKK
FLRNTWRSAWSNWKYKEIEAFLDFSSDYENLSEITYSMSAAGLFFLAGGAFTMLLLL
CCLSMITRKHIVKDLGY"

[gene](#)

complement(29658..30827)
/gene="U19"

[CDS](#)

complement(29658..30827)
/gene="U19"
/function="gene regulation, transactivator, inhibition apoptosis"
/note="EJLF4; similar to HHV-5 UL38; region IE-B; US22 like; Region: US22; pfam02393"
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/product="U19"
/protein_id="AJA36231.1"
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ITCIKVRICDNSDILSDRQLRCLLINGLYPFEGRMSMFGVTEEWEGASAAAPERQVVFL
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FTRMRHTPIFLTGVLP RRFQKVESGDCVEEDARASMRPIQCDSFGVKDTFCRPTEELL
QPSANKDVGGKVCMA LSCQEDNSARHCTIYGLTKTRGIKIMFSRHTQTDRSEVMCNAA
TQTGDVVDNSSETLLLGENLVHQSILETEVKTTAKNTFDVSDPRIDSVYD TTVFGAMA
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[gene](#)

complement(31082..32350)
/gene="U20"

[CDS](#)

complement(31082..32350)
/gene="U20"
/note="EJLF3; immunoglobulin superfamily domain, C chain; similar to HHV-6B U20; inhibition TNFR signalling and apoptosis"
/codon_start=1

/product="glycoprotein"
/protein_id="AJA36232.1"
/translation="MITVFVACLFQCVS SLPKLYIKTTLAEGIGKLQTVIGIDNDIV
FAYERLYEDLTLLNHTVVAETLFDLTGNLEEGKNSTVDRFLGHVVIREFHRLHAGLQY
VSLQNFSVSELVCFVNNNTQLSGSYVFLAGNTTYVQIDLFNENRGFVHDLINLSSFLQ
NRS LHVLSFYARRFCVEDILNFYGVVFGDSRHRPPQVFSKRDTGLLVCTARRYRPIG
TNIQWSLQNQTVSDDHMTDDFIRTEIAGQLLYSYERALSRLSMTQRNFSCEITHKLL
VTPALLTREDAYSFKGFVNPVKQSEDMFPRHNPAPHRKQFNKLQLLWIFAVIPIAAG
CMFVYMLTRYILFFVSGGCSLNPNRVLKRRRRNDEVPMVIMEVEYCNYEADDYMELHS
VQKVRDNSIAVVCGNSFDIERQSKISRNF"

[gene](#)

complement (32353..33654)
/gene="U21"

[CDS](#)

complement (32353..33654)
/gene="U21"
/function="glycoprotein, downregulates MHC calss I"
/note="EJLF2"
/codon_start=1
/product="glycoprotein"
/protein_id="AJA36233.1"

/translation="MMICFVFLCVLTLARGEIYPPICPAPGVGNDEAVRAGELLLEIS
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VSSATMHLARKRVQKCGHGKMTFISIQVQCSVNKKSIRLSRMSEASLKKQVLRVAYFL
DRNNNSWIADKNFQGEDRTMLRLWTELSTYQQYLISSCNNDVKILSELYGEFRQIALP
YDEKLNLFMPVIRSSSERLFRADDLKCSFSRWLGAEGEFAVCEYSGWGVSR LGKIEI
FAEKPLTFDMAWKTVMRSSGAYTSLFRDDVTWGLIPLDKWVGDKYFCMCTNKESGDN
VIVTLPEKNVEKSIQIYDEGSAMLSFAEMTSIILNLMFMGAVAVSVGILGISCFVGLK
EIIYFIFVSVDYMWPFCDTLLTTAVNCFFKGR TFLRRELKI"

[gene](#)

complement (33752..34360)
/gene="U22"

[CDS](#)

complement (33752..34360)
/gene="U22"
/function="glycoprotein, late gene"
/note="EJLF1"
/codon_start=1
/product="glycoprotein"
/protein_id="AJA36234.1"

/translation="MVPQGCSLVVVSALYVSVIASLHIINNENSVFIATHSETELRHW
LIFVKMTQRNGTAWWRMASVPINAYFERDIAFLFNPRCVIETAMGSKILCRYNKNIGV
VFVDNDTKCNVSFPGVQLQLLNQSVMESIRTKTYVVDYARKTTTERGDCFISVAFCRK
ERRRFLSRCERFVYYCISVYLFVAVVLCSCWFALDPLFMWA"

[gene](#)

complement (34388..35098)
/gene="U23"

[CDS](#)

complement (34388..35098)
/gene="U23"

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/function="glycoprotein"
/note="EqLF1"
/codon_start=1
/product="glycoprotein"
/protein_id="AJA36235.1"
/translation="MLFLSFLLVCLCEEVRMLNLMTTEVSATEFASIASKHMETDVST
SSDYLTGKSETTFSANSETWGKNVTEISIDSETYLNQSFMTSTLAVETTDRSIGNNV
NVTSSFPVTKGGETQNIETSFTVISASTFSDVSEKTSQGLPTKSTPKKTVQALWETDT
VQVLEFTDTHEGDEEYFKDFLSSLVIWIGGISFIGAFVILIVILCNWYKKDKQRSFLW
DEEKKPDVQMRRDAKTCR"
gene complement (35404..35667)
/gene="U24"
CDS complement (35404..35667)
/gene="U24"
/function="inhibition CD3/TCR recycling"
/note="EoLF1"
/codon_start=1
/product="glycoprotein"
/protein_id="AJA36236.1"
/translation="MDPPRTPPPSYSEVLMMDMCGQVSPHVSNDTSFVECIPPPQSR
PAWNLWNNRRKTFSLVLTGLAIAMILFIVFVLYVFHVNRQRR"
gene complement (35686..35859)
/gene="U24A"
CDS complement (35686..35859)
/gene="U24A"
/note="EoLF1; contains a potential transmembrane domain"
/codon_start=1
/product="U24A"
/protein_id="AJA36237.1"
/translation="MLLISKTLFPIPRGADEFWEGTYILVVAFLVLAFLVYSDFLSNLS
PFGIILSSPCIST"
gene complement (35876..36826)
/gene="U25"
CDS complement (35876..36826)
/gene="U25"
/note="EPLF3; similar to HHV-5 UL43 tegument protein,
HHV-5 US22 gene family; US22 like; Region: US22;
pfam02393"
/codon_start=1
/product="U25"
/protein_id="AJA36238.1"
/translation="MGLSSSKDIDLLVNFIE NRQGATLALPWPEDYRLTLHSVENIPE
ISREDVQNWAKTYMCCGGELVVVGVIHKAKTRTCRGPVQLQGARGHIYVYNGFFDRSL
YHVASSFHDLF SNGLRFFYP IYETCDYALDSTVALDMIAHSKSFSELLHYRNERKNAF

```

FTLKTYPYKTFVRFNCNLSMTEFSSRHLIQWRRKLQTSLLDVVFIVQHNFPGDWRELVV
VFDGHGMLFCVDREESLLFIARNMSDFLKIGCLRYNENRRLHTQWFTQD TDYIKQVDE
MFSRDVLCPLREHCQRSRRERGLLKICTSLVRGVNCIERG"

[gene](#)

complement(36934..37821)
/gene="U26"

[CDS](#)

complement(36934..37821)
/gene="U26"
/function="possible membrane fusion"
/note="EPLF2; type 3 membrane protein; 9 transmembrane domains"
/codon_start=1
/product="U26"
/protein_id="[AJA36239.1](#)"
/translation="MRRLTDSFILGLAKGAVIPGLYTFRMTEGRSPLGQIGVLITVAI
SFLLTFKRFDPRFYKPIGDFKIVFLSLMAPKLPSSL SAVVMICLIFSEMRLRMILSRC
VMIMPSYSPAVFTGIMVSLFFKSQMFD DYSVLITAASLLPITVRYGWMIRSSGFLGL
QKYRPILKSTSFREVDLKCLVKFTVEFLLLFTILWIGKMFLSMPKSNHLFFLTVVNNV
FFKLVNFKAAACAVVAILSGLMMNVCLYRIIFEAFVGLGFSSIMLTLSDDLKDRSFYA
GDLLNGFFCLVVCCMYFGV"

[gene](#)

complement(37809..38990)
/gene="U27"

[CDS](#)

complement(37809..38990)
/gene="U27"
/function="replication, ds DNA binding prtoein, DNA
polymerase processivity subunit; transactivation"
/note="pol processivity factor; EPLF1; pp41; similar to
HHV-5 UL44 (HHV-5 ICP36),HVS GENE 59, EBV BMRF1, EHV1 18,
VZV 16, HSV1 UL42; Herpesvirus polymerase accessory
protein; Region: Herpes PAP; pfam03325"
/codon_start=1
/product="pp41 transactivator"
/protein_id="[AJA36240.1](#)"
/translation="MCWSFHLFFKAHKARVGARTSFLTEMERGSRDHHRDHRDHREHR
ETREPPTLAFHMKSWKTINKSLKAFKLLKENTTVTF TPQPSII IQSAKNHLVQKLT I
QAECLFLSDTD RFLTKTINNHIPLFESFMNIISNPEVTKMYIQHDS DLYTRVLVTASD
TCTQASVPCVHGQEVRD SGRSPLRIDLDHSTVSDVLKWLSPVTKTKRSGKSDALMAH
IIVQVNPPTIKFVTEMNELEFSNSNKVIFYDVKSMR FNLSAKNLQQALSMCAVIKTSC
SLRTVAAKDCKLILTSKSTLLTVEAFLTQEQLKEESRFERMGKQDDGKGDRSHKNEDG
SALASKQEMQYKITNYMVPKNGTAGSSLFNEKEDSESDDSMHFDYSSNP NPKRQRCV
V"

[gene](#)

complement(39032..41446)
/gene="U28"

[CDS](#)

complement(39032..41446)
/gene="U28"

/note="P2LF2; similar to HHV-5 UL45, similar to large subunit of ribonucleotide reductase, but no encoded small subunit; similar to HVS GENE 61, EBV BORF2, EBV1 21, VZV 19, HSV1 UL39"
/codon_start=1
/product="RR1"
/protein_id="[AJA36241.1](#)"
/translation="MKRKERRINKDYGYNRKCVCHYEASQKRFCYSQYSCASVLYERV
RDIAKIIDRLDSGLDAWCLRDALISVLRATHCVPRVDRMLGRWYLKTSVFYDFCPDDL
ILSCPNVIMPNVLFVKKYRDFIRSVLYKVSWSKNQYMPGVLAASRFLEEISNSLNG
VEESIPCIYLRMCATLTEIVLRIGYLRREIYQENPYVMFEELAFSLFTQKWLPFSCMT
NLGLVEKANSTVFDVAIYNTCLYSLVDFTTVNGEHLFPALLNGSNISMNLTTRYQQEAK
NIFEILLSQIRVVERDSDKTVQLTVYVEVWHVSALMWLDLYEALPQTSRVTFCLIIIPG
IFMDRYELKRAQWSLFQKNIAFELGKDEITFSTKYLEFERTTDHAKITMSSFIEKIC
LCLKGGRMGLIFRKNVYQYSMIPHVPLYCGGDFLDVLPVRDGINTCLRMLLNVVHFLG
DEVSEDELTEEIDFVRLQCKFFMFNELLRRVVRKMLVANAVIDYAVENKDFLCEGIEDG
RSLGICVTGLHSVFM TVGLSYAHPDARRLYRMICEHIYYTCVRTSVDCCKMGAEPCLN
FDRSKYALGMLYFDHFDNVECTLPEELWTTLRKDVLMYGVNRNIHFTAGTAMQKEFDII
NSSESFWPMEDNKILRRSNIKVVIGKDGLNDVTSVYSELKSLYIPVYNNLLNRFNK
HQQYLKTVGYRVLNVDTNLFTDKELDDLAVFKDGF SYHLNDLIEMYKSGLPFLDQGQA
NVFYFNDTVSLRLLLLPLLYKAGFKVAMYKVL CNSEMYKHLDSLNPPLIGKSDGVVM
HVKNIL"

[gene](#)

complement (41469..42368)

/gene="U29"

[CDS](#)

complement (41469..42368)

/gene="U29"

/function="capsid assembly and DNA maturation; capsid morphogenesis"

/note="capsid triplex subunit 1; complexed 1:2 with capsid triplex subunit 2 to connect capsid hexons and pentons; P2LF2; similar to HCMV UL46 (HCMV minor capsid protein, mCP), HVS GENE 62, EBV BORF1, EBV1 22, VZV 20, HSV1 UL38"

/codon_start=1

/product="U29"

/protein_id="[AJA36242.1](#)"

/translation="MNSKSSARAAIVDTVEAVKKRKYISIDEGTLNNVVEKERKFLKQ
FLSGRQNLRIAARVFTPCELLAPELENLGMLMYRFETVDNPKILFVGLFFFLCSNAFN
VSTCVRTALTAMYTNMVDNVLSMINTCRYLEDKVSFLGVTSLVSCGSSCLLSCVMQG
NVYDVNKENIYGLTVLKEIILEPDWEPRQHSTQYVYVVHVYKEVLAKIQYGIYVVLTS
FQNE DLIVDILRQYFEKERFLFLNYLINSNTTLSYFGSVQRIGRCATEDIKSGFLQYR
GITLSVIKLENIFVDLSEKKVFV"

[gene](#)

41896..45144

/gene="U30"

[CDS](#)

41896..45144

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/gene="U30"
/function="capsid assembly; virion morphogenesis"
/note="complexed with large tegument protein; P2RF1;
similar to HHV-5 UL47, HVS GENE 63, EBV BOLF1, EHV1 23,
VZV 21, HSV1 UL37"
/codon_start=1
/product="U30"
/protein_id="AJA36243.1"
/translation="MTHDNRQLLPQETKLVTPNKDTLSSRYLHVLIIDNTLSTIEFVY
MAVKAVLTQVDTLNALEQRKRNPTNRILGLSTSVSKRYINIPKFSSSGASNSQGVKTL
AAIRKFCLPDKNCFRNFLSFSTTLFKVPSSIDIYFLFFTASTVSTMAARALDLEFILS
SLKKSTSPESLLAATAKIELLSLAADSVTHNRVIAFINRLTPKKYHFDLIRQYAVFYF
LNSTTLTSENKLLSAELLYEELSQIPSSSSSGTELENLNNAEVLYVFDRIILNSIKMLK
NELSSPIGKLRAQPAANDPGTDKTIKYSKIQSIIQKINSFTHENSLLANCRAVVELID
DLYRKLYSWFLHVLTFEDIQFPGDTFLDRLLKMDYCFYYPSSNRHLIDLFEKALDNQ
TFTNLDKFFDTSGNSPELLYQKTFSLKIFSKNLTAQDNGLYIYPLLKTDLSILDFLGT
ENILFHRGLIYHILHQKTIPQERENDLNKINQFFATVIQQVIETKSSCLPASLSQLLD
TIFHFNRIGLNMETCRTYIEILSNHMATPDTQPIINTFTINLTHIVTAHVFFICMEN
FSPTFIFYNRKKLILEQQRAILIIERNDYSTLWKQISDHIDCLFNVSLSESFFKEYTK
GGNEDQKQFLYKNLFEKWGNVFFPFTYSVSTSNNSTAYHITTLELRDICKEVYQSDSP
DAYESLLPYSTHPSFKTLFVKIYVPMVSHITNLTFDKLQSDCRLLTLIHACKLLLP
QHLLHLYMAWLYAFSINVDHIDLGTFTVIKSVIFKIADHINVMTHTIYSPETNLLVSI
LLNAYTNYLQKYVNPWIKQTITANFSLIQTYITFTKQCASILATKCNINLNLFIYIT
IGTDKIVTTSFCFSFIATCRNLVRQHHEFEKSLQTIQISETTLTGMLRNIITSVSSSKE
LLTNEALQKFIDTVQRISQHVNETYQSISMNLEKCKTSDNIIIESLKKIYIVDVLSS
NAILNTSLASRCLEAANLAVSNNSTILEIKKDAVAVFKPFITQLFESMKPTTSLHKK
LMSTQKLTDDHIPFLDTFDDRYNLVRHVERQLNWYAAHAEAAQQDLITPLKF"

```

[gene](#)

45162..51395

[CDS](#)

```

/gene="U31"
45162..51395
/gene="U31"
/function="large tegument protein"
/note="HHRF1; similar to HCMV UL48 (high molecular weight
protein, HMWP), HVS GENE 64, EBV BPLF1, EHV1 24, VZV 22,
HSV1 UL36"
/codon_start=1
/product="large tegument protein"
/protein_id="AJA36244.1"
/translation="MKIITSSTNQNDISKYGPRAGKQCMSNSFSFLHTVYLNGINNSLN
AGTIDAIMEEGYHLDTAGTLALMLNNSDSQDYRLPTEIPKRIHSRYGVTQHELSRPFN
GTLDTQKIDNEVYLGLIDFIFYGKSKNGPTFAVITIGVLSRALFFLNNTLYLFDShPT
EREATAAIYICQNIEEVYELLTTHGTEGFYYDASLIFFIETSNLSLSSHDAELLILKT
YKDPDIAIALDKFSSTEIHEIKKTDIGSQQDLVADKTTDLEHAPHKRKKNHSLSLE
LNDKKKKDTASLTYATEVDLIPSFYELRSQFQSLFHDLSFPIMKSNFNWTIYLQDS

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PINPNQPFATPFLWNRVFHLLCQIIDVFVGVGSTNDDSSKQQQQTIFINYLLPFKDFS
EVFNEALAACQENNLDIIFIYNNYLCKTTTFRTLERILLSKFLAIVDNDHKKHYEWVK
SWTTQMFQGMPPKKLDDIENYLKAYVDHNPVKHFHEFICLNKAKEYKVAVLLNEKRKEI
QEAIEREKNSFAQLSNFIDKLGETPALPIESENHVKVHTSDITEGIVPRFITESIPL
NISTLNNTQQISLDKQLNEKLTNTIHTLTNKFTKIVQDNYNNIAAGFMPVTELNCLFA
YLVNLYFNIEVLKHSGLNINTVLLQEVEKLYDNTQFLRFGTSHFNINNLSNFTLSIRK
MFVDFYNSQKPSDRASEILAAIESILADPSKNKTVVNIEMIKSQLEELGKMEISTTEN
KQTAATKQILGDQELTPIDYDFLHHL SAYNLPNTTTTVKNLHLHFILEQRPDIAMTLHD
KIQSILDYVDDMLNDITVPEQTFSTVFLVDLFPNSTEKTALFESVTLRQLAKKCA
NLKTLDEFDDLAQFITTNSEQLQNMQRQHFGKKIPTLMGHIKFLYSQKIITTEKNWI
QRAKTVVITSPEELTAFLATAPTKHALQTCKPDLKALQRHMEEQMKQTAENDKKHIL
TIRSTLEKRLNDILLILKDGQFSSLETMHLNLLETFLKQLQDNNVIIHFTHALLPVLK
DIETTISKIISDVIEKILIKTPLNPEQMSKEEQKYTPLLSFLSKFKKTTFTCTEDIKTE
IDQMOKSITFLKKIATSANKHTRLSHSIYGQELNLYEERITELRKETNKMKEQLSKEY
ALAEKKILLSSQDAKTDKIYLVNTHTLKEIKNTQFRETAFAKALTVEVNNKENQLQE
LLNHFNAHLKAKMDQNHITKLSFDTKWTA FVSDSRLYIPDFINIKLQDFISDPFKVIS
QLMNKATNEMPYIQAEITLKWLTKLIHDINKFCLSAISEFGKEAIPFNYAALRDLEYQ
INTKYVEIENKVICNETVENTKNIPKLT KLLQLDPKRVAGGQEYQTL MNKILSSET
SMQQTYEKEQLKKEYFEIVNNVASFKLAFNFPQQLQNVERLIEKFKS LPKSQPFKEKFP
QENDLLSDSLNTENYINGLRALLNFITAAQNYIQNTLLKQWAVFQQQNFIPIDYSVAN
VKPISDLYARLRIERERQVFYQVNSVFGTHLIVDDTGVPLQFHNIFNNAIVKFFSLNY
KQIHVPEDTPRLVSSQYKLLSVCKSFIMILQQFWENIITLDLGPYLRDGTQNFKRELI
PIVNLKLFYICITQAWTASEDSTVSTAFELPIKQFTLLILCSHPEYLYGCLSHSTDV
INSLAKSIDKNSLYNTFVVSHNPPEKPMHLMRNICIDTQLWQPAKLMKDTFQQTFFTQ
LCPKNEKFFIYLTAFILIPYKFMNYIWIQYKPAIFTQRSYQNLIKDL CSEYVHQNKIT
TSSVTPHEPDTIKSGERITSKITVHKAQNTPTLTRLQAQEYVFDYILYSFLTGYEMTF
AMYIDTIEKTYLLCMRHLNENVLHDKDFQSVLRARTFDIDYILKQSWTKNIVEHSLFSV
QLDKIVSYLNHTNRATPNIPILFNVDNEVVNVYLPMSNNPKKVAFYIKNPFHFPVQ
EYEATNLISFHLYPKTTDILNQLPPNNTESTRPGKQTSETLTTKNLSEPKFKKPAVTG
LVPKQSQSIILSTD TNVPETSPDVKANTASAAIKDVT LAREKINEFSSESINTTISKLS
MYL"

[gene](#)

complement (51467..51733)

/gene="U32"

[CDS](#)

complement (51467..51733)

/gene="U32"

/function="possible capsid transport"

/codon_start=1

/product="U32"

/protein_id="[AJA36245.1](#)"

/translation="MTTIRSDDLNQITQISGSSKKEEEKKKQQMLTGVLGLQPNMAS

HPVLGVFLPKYAKQNGGNVDKTA FRLDLIRMLALHRLNTKTGSD"

[gene](#)

complement (51735..53147)

/gene="U33"

[CDS](#)

complement (51735..53147)

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/ gene="U33"
/ function="capsid protein"
/ note="XILF3; similar to HHV-5 UL48 (capsid protein), HVS
GENE 66, EBV BFRF2, EHV1 25, VZV 23, HSV1 UL35"
/ codon_start=1
/ product="U33"
/ protein_id="AJA36246.1"
/ translation="MFYLLKLLRQLLAPLCKHGPYTHLQLFVMGEACVPGKCVLTMFL
TNKKFLNKEVTEKFYNEFFAIWLRCPETRLITKRLFNKMVMTKGLFVLLAYLYFVYR
QCKVLELLSLYKLTIKWVDVETRFRVYPPYKLNKLEMPSPFSEINELHMFLFEQQLL
LPITHTVNLPCMRLFCRLDYEQTETVMLRYRQREHVSFSPMLRKYALKSPAGNFMFT
MAKALVENFCFSADRYLIPVEHNNLVPMVPSKPERGDFPKILTFALATSLKDGLATSV
ISLPVMCYCKTKCSRFILEESYICVICAACGHCNLNSGKEKLCSPQGFSLSMIFYFRDK
QEKNLIIYSMHTDVMYCSLCGSQQLVFERIYEMSEHCVLGMKVKTVSWKAVIGTNSACT
ILNDNVKFDVIVPCSCRSYSTVHLYNVTVKLLRLVSHGSDFQCQRCQHSFRETCLD
LEDVCNICQGCQISQNVRCI"
gene complement(53098..53928)
/ gene="U34"
CDS complement(53098..53928)
/ gene="U34"
/ function="provisional nuclear egress membrane protein;
virion protein?"
/ note="type 2 membrane protein; interacts with nuclear
egress lamina protein; XILF2; similar to HHV-5 UL50, HVS
GENE 67, EBV BFRF1, EHV1 26, VZV 24 (?), HSV1 UL34 (?)"
/ codon_start=1
/ product="U34"
/ protein_id="AJA36247.1"
/ translation="MANVLKEKMYDELLSATCRILKLGSHDYRITERNLLSKNPKFPL
CDIILKLDYAYNLEYLISLWEHVTKQEPRFVFKNKGAVSMSCYLHAPVKVEGHHAVR
ECNILRVNECLTVRMSDIVAMKPSTFAVFTKCIIRNRDDTYVVEFVAFGPENESEYI
SLLKAIFLKKCSMGKQHLESNRFCQGLRRRSSHVLEKGRFESSGKVVNKASAVVTSQE
SIKQFYEKEKSLLSGVKFWRLSERHCRFALVGICFLLALYFCYVLLKKTPTPASGSVV
"
gene complement(53945..54265)
/ gene="U35"
CDS complement(53945..54265)
/ gene="U35"
/ function="DNA encapsidation"
/ note="similar to interacts with DNA packaging terminase
subunit 2; XILF1; similar to HHV-5 UL51, EHV1 27, VZV 25,
HSV1 UL33"
/ codon_start=1
/ product="U35"

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/protein_id="AJA36248.1"
/translation="MMDSSPEKTNLELLYERVCEQGREFEVVFYPMLPRLYEMMLPSL
EARLNFLSVGYRHVAFARYVHGDVDCVHREVMAQKMVLLTSILSKLLNVNGILEHQEY
LNTE"

gene      54264..55718
          /gene="U36"

CDS       54264..55718
          /gene="U36"
          /function="DNA encapsidation; possibly capsid transport;
          virion protein?"
          /note="XIRF1; similar to HHV-5 UL52, HVS GENE 68, EBV
          BFLF1, EHV1 28, VZV 26, HSV1 UL32"
          /codon_start=1
          /product="U36"
          /protein_id="AJA36249.1"
          /translation="MYKGWDSEALPIQSEILNEILLYCYLTPQPPIPSETTTATSPTN
          IENEISNLDNSENLEELKQLSVALNIDRRCNICSIVNLCLKQNKSWIYDYSLLCYKCN
          YAPKTPLSLLIVSTEFMLIRERFPNINFDGLFLNNIVSIFDFHVHFFIHRCFANTVN
          DHIQSENITLNHMAIIRSTLLKEDTIPHIKIKKFLTKKMNPKKTQSSELNKKLTVPMK
          TRFTLLFYMWSGTNVFDVRVPFTDLTIRKHRFIKNLYSNKTDIELTAGPILLAQIPFS
          ITKNKTTSVCLLCELMTASKQDYIFLKYLHQSIMDYCQNNLKMIDRVQFVIADIFEKT
          KIHTHVKNLSDYSKAIFDNEFSFSDDNFTLDTHVYLILRQTGTGVGVYKHFFCDPLCLA
          NCKTINPEVLFNFTDAGEIQDLKVTICYRNEYLSIVEKHVWLAIHLFKAFQIIKPNHK
          NKTQITEFLKDFTNLLALHHFDIIDPIFTVNYYV"

gene      55722..56516
          /gene="U37"

CDS       55722..56516
          /gene="U37"
          /function="nuclear phosphoprotein?; nuclear egress"
          /note="interacts with nuclear egress membrane protein;
          XIRF2; similar to HHV-5 UL53, HVS GENE 69, EBV BFLF2, EHV1
          29, VZV 27, HSV1 UL31"
          /codon_start=1
          /product="U37"
          /protein_id="AJA36250.1"
          /translation="MTVHKSRVRRSRSLSVTHRIQRPDHRKTKLYLQLKLHDLHTV
          FNMFPYEYEQKFLAIIKLPITGKEPIDVPFSLSNHHQHTCLEFSPYANEQISKSACLHC
          ESVSVPTSSDAMVAHLNQVNNVMQNRLYFYGFRKDMELIRMSAKQPTIFQIFYIVHNT
          INNIFPIMFERKQKLGMHIVFQSRTLHIPCECIKQIVAVSSGYNVYLDILQESVILTV
          LCETLDTNTNIHIDIGMLQKKLEEMDIPNEISDRLEKYKGHLIGFH"

gene      complement (56562..59600)
          /gene="U38"

CDS       complement (56562..59600)
          /gene="U38"

```

```
/function="replication, DNA polymerase"
/note="XILF0, Pol; similar to polymerase delta; similar to
HHV-5 UL54, HVS GENE 9, EBV BALF5, EHV1 30, VZV 28, HSV1
UL30"
/codon_start=1
/product="DNA polymerase catalytic subunit"
/protein_id="AJA36251.1"
/translation="MDSVSFFNPYLEANRLKKKSRSSYIRILPRGIMHDGAAGLIKDV
CDSEPRMFYRDRQYLLSKEMTWPSLDIARSKDYDHMRMKFHIYDAVETLMFTDSIENL
PFQYRHFVIPSGTVIRMFGRTEDEGEKICVNVFQGEQYFYCECVDGKSLKATINNMLT
GEVKMSCSFVIEPADKLSLYGYNANTVNLFKVSFGNFYVSQRIGKILQNEGFVVYEI
DVDVLTRFFVDNGFLSFGWYNVKYIPQDMGKGSNLEVEINCHVSDLVSLLEDVNWPLY
GCWSFDIECLGQNGNFPDAENLGDIVIQISVISFDTEGDRDERHLFTLTGTCEKIDGVH
IYEFASEFELILGFFIFLRIESPEFITGYNNINFDLKYLCIRMDKIYHYDIGCFSKLG
NGKIGISVPHEQYKKGFLQAQTKVFTSGVLYLDMYPVYSSKITAQNYKLDTIKICLQ
QEKEQLSYKEIPKKFISGPSGRAVVGKYCLQDSVLVVRLEFKQINYHFEVAEVARLAHV
TARCVVFEGQQKKIFPCILTEAKRRNMILPSMVSSHNRQGIGYKGATVLEPKTGYAV
PTVVFDFQSLYPSIMMAHNLCYSTLVLDERQIAGLSESDILTVKLGNETHRFVKPCIR
ESVLGSLKDWLAKRREVKAEMQNCSDPMMKLLLDKKQLALKTTTCSVYGVGTGAHGL
LPCVAIAASVTCLGREMLCSTVDYVNSKMQSEQFFCEEFGLTSSDFTGDLEVEVIYGD
TDSIFMSVRNMVNQSLRRIAPMIKHTDRLFKSPIKLEFEKILCPLILICKKRYIGR
QDDSLIFKGVDLVRKTSCDFVKGVDIVDLLFFDEEVQTAAVEFSHMTQTQLREQG
VPVGVHKILRRLCEAREELFQNRADVRLMLSSVLSKEMAAYKQPNLAHLSVIRRLAQ
RKEEIPNVGDRIMYVLIAPSIGNKQTHNYELAEDPNYVIEHKIPIHAKEYFDQIIKAV
TNAISPIFPKTDIKKEKLLLYLLPMKVYLDETFSAIAEVM"
```

[gene](#)

```
complement(59600..62092)
/gene="U39"
```

[CDS](#)

```
complement(59600..62092)
/gene="U39"
/function="glycoprotein B, gB, infection"
/note="gpB; cleaved glycoprotein linked di-sulfide bonds;
similar to HHV-5 UL55, HVS GENE 8, EBV BALF4, EHV1 33, VZV
31, HSV1 UL27"
/codon_start=1
/product="glycoprotein B"
/protein_id="AJA36252.1"
/translation="MSKMAVLFLAVFLMNSVLMIYCDPDHYIRAGYNHKYPFRICSLA
KGTDLMRFDRLDISCPYKSNAMSEGFFIIYKTNIEITYTFPVRTYKKELTFQSSYRDV
GVVYFLDRTVMGLAMPVYEANLVNSHAQCYSAMKRPDGTVFSAFHEDNNKNNTLNL
FPLNFKSITNKRFITTKEPYFARGPLWLYSTSTSLNCIVTEATAKAKYPFSYFALTG
EIVEGSPFFNGSNGKHFAEPLKLTILENYTMIEDLMNGMNGATTLVKRIAFLEKADT
LFSWEIKEENESVCMLKHWTTVTHGLRAETNETYHFISKELTAAAFVAPKESLNLDPK
QTCIKDEFEKIINEVYMSDYNDTYSMNGSYQIFKTTGDLILIWQPLVQKSLMFLEQGS
EKIRRRRDVVDVKSRRHDILYVQLQYLYDTLKDYINDALGNLAESWCLDQKRTITMLHE"
```

LSKISPSSIVSEVYGRPISAQLHGDVLAISKIEVNQSSVQLHKSMRVVDAKGVRSET
MCYNRPLVTFSTFVNSTPEVVPQGLDNEILLGDHRTEECEIPSTKIFLSGNHAHVYT
DYHTNSTPIEDIEVLDAFIRLKIDPLENADFKVLDLYSPDELSRANVFDLENILREY
NSYKSALYTIEAKIATNTPSYVNGINSFLQGLGAIGTGLGSVISVTAGALGDIVGGVV
SFLKNPFGGGLMLILAIVVVVIIIVVFVRQRHVLSKPIDMMFPYATNPVTTVSSVTGT
TVVKTPSVKDVDGGTSVAVSEKEEGMADVSGQVSDDEYSQEDALKMLKAIKSLDESYR
RKPSSSESHASKPSLIDRIRYRGYKSVNVEEA"

[gene](#)

complement (62046..64226)

/gene="U40"

[CDS](#)

complement (62046..64226)

/gene="U40"

/function="transport protein?"

/note="transport/capsid assembly protein; similar to HHV-5
UL56, HVS GENE 7, EBV BALF3, EHV1 32, VZV 30, HSV1 UL28"

/codon_start=1

/product="U40"

/protein_id="AJA36253.1"

/translation="MNSLQSLCVLCARLNECALDLECLKFCDPVIVLSDMANFKKNGI
VILHLYQTFEFGIKEQNLLCASALTVYMQVLLKAMYEQVLLLDAALESFMVDQDRKKY
FEKVLCLRRCAEHLNINISLNGVEFIVQLSTLNDIEQLISKINSVYALLLPQEGLOI
CGKIIDLTLTIMCGACMVAKPESYLETKTCMKCYEELTLTPNQKSLRRRLHGKFCNHL
TEQKAFFNIEKNIETIEKDLGEAILNYGTVQSVATEIKKIFKQQRSAESLHVSDAECT
LKKYNIFSKVPDVIYSLSEFTYWSKISETIVRNVAITLQQLNSCHTLYKQLQNDVSLY
LYGEVSEDFLALSENLLTHDERLYVGSIVVSPSRLIDLVTGLSIKNLEESPIFKRLAE
EDEVQHKKISLLHDIRDPTTETPGRNLNTINCMLQTHNLQQEVLARKKAYFQKVSESG
YNRVMACIREQESLINKVSVNVYGNFIFEALSKIMNGFVLRKMYLDGSLRVDSCITYD
EHLYIKNNLMPKKLPLELLPDLSEIMYTLTGTPLSDFHKSAYPLPANISMAYGCDHAE
MLPHMKEDLARCIEGTIHPSVWMVCEYNEFFNFSGVTDVNDMQKMMWNFIRELTLSVA
LYNDVFGKRLKIVRIDEEDLSGNVVLTFNHESPLLFTGGGMTKFKDVYSLLYCDLQ
AQLSRETVDVPEGVSYSVRTPNLLDLVRENEQDGSIIIPGCLFDE"

[gene](#)

complement (64234..67632)

/gene="U41"

[CDS](#)

complement (64234..67632)

/gene="U41"

/function="replication, single-stranded DNA binding
protein"

/note="mdbp; similar to HHV-5 UL57, HVS GENE 6, EBV BALF2,
EHV1 31, VZV 29, HSV1 UL29"

/codon_start=1

/product="major DNA binding protein"

/protein_id="AJA36254.1"

/translation="MADENETVVSAPVSTAAWIYVFPKDKELLDVLSVLSLMERNSPV
VISPLLMNLTVENDFSTTVKTPITNFGGTILTKITSFMPVCCFFHFGTEQLVGMAEDHG
DLIRLCEQTRQKFHLQSFEVPTARKVIDIKALCSAVGKDADSVICHVACNGGFKELLF

AGLLIPCVEEQIQVQVGEYSCVKIPLYSATLFETEETISLSSCTEFIQERAFFLPALS
ETLFYYVFTSWGTTLRFSNTKELIDAGLKQFTQDGEQTVKLAPHKTYLIGISGQKISAV
EKDFLMLVDSVVTLSFSHVAEYLDVYDPSQIMNFNDWPIIRNSETHAERMAQLTNL
KLHLSSHLAVLIFAPNSILYCSKLAFIPNVKQAFNSVMTQELLRLSLSFCNALSSLTE
DVYNDNRKIIKCDSTSGKDDKFSANHLAYACATSPQLLSYVVWNLNRMSVYNAGNAHT
EIYNHLVNCSANLCEFCDGKCCQSCIGTAMVRVGSRLPAIPKNVKKPELVMSMFSRY
AEVDILGSFGRKPVSELKEIGKDQQNTLSLDRGKFVSQIFDYCKKNSLIDPVTGEDTF
NVRSKKDFVSIHGLTQCIEECVSRCIVEMRRTQTPREQIENCLQSFNVDTTPYATAF
SPFLTFSYYKVILTVLQNLALIVASGHVVD RPCTGNSISKWL VQYQSLYGT FHSSYL
KKGFLNTRTVKVASNV DMEQILD CDLYKSGKYVKTTIQA KLCRLSMQCL RDFRIK NRP
FNKSSKTAHNNPYFKKNV KHKKNPLSGCISFLLFKYHDKLFPNVKISCLELWQRFLLN
NVPKTL DIGNPEEVKTFIKFAFSITNTYDEIDIIDIQPECLSTFIDCYFHNKFLSALG
FHDYLTSLHGLTSKLV TQNPVLFPPVLDKQPKFSSIQEYLVYVKKLVLDGVPNPVIAS
LSKEPNFGTIFTSRSLVT FGLTLEKFVSLANREYFQFGQLGWIGGSGVDRNLNPTSSA
LQDFRFRMQKTIIATKFSEVIVKKVRREAIMFDTEVVKGKVL SIVENLTNDIDPELLI
IAEVMRDREDKPTMD DMLFFVDGREALAASIMLKLNLHLD MNVKDFSISNLQSVFETV
SSNDAPVYDFSEILAEEDDQGNGLKCD ETETETDEPMTKKNRL"

rep_origin

67629..68005
/note="ori-lyt; minimal origin of replication as in
Dewhurst 1993 citation; included efficient ori-Lyt mori as
in Turner 2002 citation; origin of bi-directional DNA
replication during lytic cycle"
/citation=[1]
/citation=[2]

gene

complement(69009..70556)
/gene="U42"

CDS

complement(69009..70556)
/gene="U42"
/function="transactivation?; post-transcriptional
processing?; similar to RNA metabolism and transport RNA
binding protein"
/note="similar to HHV-5 UL69, HVS GENE 57, EBV BMLF1, EHV1
5, VZV 4, HSV1 UL54"
/codon_start=1
/product="transactivator"
/protein_id="AJA36255.1"
/translation="MYPRGVKRSHHDYHRQTAFRTIKRSTHRQTSKFISHFAKNFRGK
LAPLKQLDESRLDALSLTELEQLKTIIEEKQQEKRAQNNAITFLPNLPTVPFADTNFS
LKSLGLRPYNGDARDPKQRIRDRFPQ THERICLLTNDILETDLLRLRYRQCLDSL TREE
NQQLMGDRIFSLTNSPCLAF TVATVEEACSYFKFHD LHNLPVNPQDLFMYTITVMKFE
FFNKL NMAKLTCVFNDNGHGDIEYRKLRLQCGKPVLDREMPNSELEVQQQT PDSFRHP
IQQAMSIVVTFARILRQIKEQIIQTKKPQFIRDFDTGRVAERYECGLMSRLIGKQFSN
HKCDDVSCQNRIERIMAPWKPSLFFCTYFAKDAPKFKLFNPFEEYQNL SFTCPKVD T
EPSCSYSTNHDL PQTSHRSHKKHDT PKL KSKVCVEKPDTSILTTT KTTTEILIEESME

TDNKIPNPRELNFNQAKQEEIVIININENVNSKHESSESSVEMDLDLDYEADTCETNLN
ACSSDSE"

[gene](#)

complement(70781..73363)
/gene="U43"

[CDS](#)

complement(70781..73363)
/gene="U43"
/function="replication; helicase/primase complex,
primase?"
/note="helicase /primase complex similar to HHV-5 UL70,
HVS GEEN 56, EBV BSLF1, EHv1 7, VZV 6, HSV1 UL52"
/codon_start=1
/product="helicase/primase complex protein"
/protein_id="[AJA36256.1](#)"
/translation="MTIVVFATEYDAANVIFSILCRSPSEHLIFPIIVKYKPSNNVSF
CLQTQKCKNSKRIDTVFVCHAENLNSHYIQTASPIKAEDVANSLNDKETESLYVDMI
LSQTGKEREDVEFKYMAYFHKSIIKYLTGKFLLPSPFWFLSTYGQTEGMLLLTMFY
YLFEEQKSTITTTKNYVQCFTENTGNMVFTYSSMSEFINITLKSFRKLFADFSTYAR
QKNLRDKEEFKHLDTQINLFRKSSHLTNTFRVHYIYIAYNTALETTFVNYCNLTSYD
SNLPIGQQCQRNLHILGNSLHENLLCIMKQYFNADCYFKTYIDIKRLKNPNLNVTEYE
YALVSKKKTIQALTSEQITRAIAKCNKNGEGLFSPVKPGLQGLLEISASDRYVQIQDK
RIYRRQHLHKDYHRPFPVFRVQLLHKNIFCFGNSEDWYENMGFNRIQLYLPDEYISDE
ALTRAIWLQDTHFLCDDVEKQFYTTTRHEIFNERIPVTNYIGDLPLQDTATITEETF
FSMCRILRLTLINAWKKIFPSIDTDTHPIFFFKTQCDTTNDTLDYTEDPTEIKQFCVC
RKKIGLRISIPLPNGTAIAGGEPLKQLSKILNHVMCLDQELSQILNSITFPGEFCFDIG
IYHTGHCIRIGYMYKTDMDKGKMLHGRLTPIFIVPAGYRNSCKTFIQMQMDLNNLLHH
GTTKAPIEELIYNITDKGCPKENLSFMDLKSRLWNKVNIATETLITKYLNTHGNNN
ATSADDSLLSFIRLIGWPVIKTQLITHYETRIAQQFSQVTFIKIDSKNLQIKKTQFGR
VSDFSCLNQRHGRNDRNVLYIQLKADGNRLILILWSTCFATKQSNKQVHCSIALE
QLKN"

[gene](#)

73428..74045
/gene="U44"

[CDS](#)

73428..74045
/gene="U44"
/note="similar to HHV-5 UL71, HVS GENE 55, EBV BSRF1, EHv1
8, VZV 7, HSV1 UL51 (?) "
/codon_start=1
/product="U44"
/protein_id="[AJA36257.1](#)"
/translation="MGNCFRRLSLFGQPTQAKYEMLCSSDDLETEELTYFLDMTYKDF
GVYQNDIISHQKDETMKTLGLLPMYKTKLRHTVMERCLSNCPNHVKDALCVELMK
AEKILQTMDEVVFMKTLIGEFMCTENLNQLLNKFATDQSTLSDVEKINSILIEIDGENS
KRLIVELDPILHEETGLYQALPNVVTEAPSEKVKSIIRVESEGESV"

[gene](#)

complement(74046..75176)
/gene="U45"

CDS complement(74046..75176)
 /gene="U45"
 /function="putative dUTPase"
 /note="BHLF3; similar to HHV-5 UL72, HVS GENE 54, EBV BLLF2, EHV1 9, VZV 8, HSV1 UL50"
 /codon_start=1
 /product="U45"
 /protein_id="AJA36258.1"
 /translation="MYSATSEKISETITLQRQTSSRYIEFFVFRNVNDINELWTTDISE
 DKTHDVWPAVNKKSFKKFLENELTSYQRPIPLLGIPQNGTVSKTCKKEKQRETDCVNY
 ERKHDNPVTFYPRHRAKRNANTDTCISEEPSILVSHHRNSKMDVFMNTKITLVNREL
 IWVPHDQVRIVKLDISLYIPDGFFGVITGHSNDVFCECVTEIITDETDISVFLMNLSE
 HSLMLLPDVEFSINFLPCYIPEPWEMINLSPPEFAIFHLKASREFIAKPNSTYTIQYF
 DAMYVCADELKALMIPSKEIAKLGLLIETYIWNKDTIPSIFNSTRTKIYIPTGICI
 ARIIFTGCGHFCLSLMPERAINRLQVLDANSSFLFHYAASNNA"

gene 75249..75503
 /gene="U46"

CDS 75249..75503
 /gene="U46"
 /function="membrane/secreted protein, virion morphogenesis"
 /note="glycoprotein N; gN; BHRF1; similar to HHV-5 UL73, HVS GENE 53, EBV BLRF1, EHV1 10, VZV 9A, HSV1 49A"
 /codon_start=1
 /product="membrane/secreted protein"
 /protein_id="AJA36259.1"
 /translation="MSCKKSERQRLYVSLWLFSLVFAAATEVDFYSPECHSHTYEIV
 LNSFSSIWLLINLFLLLCSFAIFLKYWCYKTFASETVMKGY"

gene complement(75874..77829)
 /gene="U47"

CDS complement(75874..77829)
 /gene="U47"
 /function="membrane/secreted glycoprotein, associated with gH/gL; virion morphogenesis"
 /note="gO; BHLF2, variable glycoprotein; positional similar to HHV-5 UL74, HVS GENE 51(?)"
 /codon_start=1
 /product="glycoprotein O"
 /protein_id="AJA36260.1"
 /translation="MHLEVIVQSYKKSKEYFSHTFYLYKFIVVNSPDLHISQLGLFL
 GLFAIVIHANLIKYSDFLEAFKTVNRHNWSDEQREHFYDLRNLYTSFCQTNLSLDC
 FTQILTNVFSWDIRDSQCKSAVNLSPLQNLPRTEKIVLSSTAANKSIIASSFSLFYLL
 LFATLSTYTDAPPCVELLPFKILGAQLFDIKLTEESLRMAMSKFSNSNLTRSLTSFTS
 EIFFNYTSFVYFLLYNTTSCVPSNDQYFKQSPKPINVTTSFGRTIVNFDLSILTTTPSS"

TSASLTSPHIPSTNIPTPEPPPVTKNSTKLHTDTIKVTPNTPTITTQTTESIKKIVKR
SDFPRPMYTPTDIPTLTIRLNATIKTEQNTENPKSPPKPTNFENTTIRIPKTFESATV
TTNATQKIESTTFTTTIGIKEINGNTYSSPKNYIYLKSKSQSTTKFTDAEHTTPILKF
TTWQNTARTYMSHNTEVQNMTGKFQRTTLKSSNELPTIQTLSVTPKQKLPSNVTAKTE
VHITNNVLPSSNSSYSITKVTKEVKHTRMSASTHEEINHTEIAQMTPIILNAHTSEKST
TPQRSFTAETFLTSSKPAILTWSNLLSTTPKEPLTNTSLRWTDHITTQLTTSNRTQS
AKLTKANISSQTTNIYPQTITGRSTEV"

[gene](#)

77813..77977

/gene="U47A"

[CDS](#)

77813..77977

/gene="U47A"

/function="membrane/secreted glycoprotein; contains a
potential transmembrane domain"

/codon_start=1

/product="glycoprotein"

/protein_id="AJA36261.1"

/translation="MTSKCMLCWTAITNALAILMLLLVIYRAIIGFNGDIYTSTLSAF
SCIRTNSSNT"

[gene](#)

complement (77996..80080)

/gene="U48"

[CDS](#)

complement (77996..80080)

/gene="U48"

/function="infection, cell fusion, immunogen; associates
with gL and either gO or gQ"

/note="gH; BHLF1; gH and gL (U82) form a complex (gH/gL);
induces neutralising and syncytia inhibiting antibodies;
similar to HHV-5 UL75, HVS GENE 22, EBV BXLF2, EBV1 39,
VZV37, HSV1 UL22"

/codon_start=1

/product="glycoprotein H"

/protein_id="AJA36262.1"

/translation="MLLRLWVFVLLTPCYGWRPLNISNSSHCRNGNFENPIVRPGFIT
FNFYTKNDTRIYQVPKCLLGSDITYHLFDAINTTESLTNYEKRVTRFYEPNMNDILRL
SPVPSVKQFNLDRSIQPVVYSLNMYPSQGIYYVRVVEVRQMQYDNVSCKLPNSLKEL
IFPVQVRCAKITRYVGEDIYTHFFTPDFMILYIQNPAGDLTMMYGNTTSINFKAPYKK
SSFIFKQTLTDDLLLIVEKDVIDVQYRFISDATFVDETLNDVDEVEALLLKFNGLIQ
TLLRGDCKKPNYAGIPQMMFLYGIVHFSYSTKNTGMPVLRVLKTHENLLSIDSFVNR
CVNVSEGLQYPKMKEFLKYEPSDYSYITKNKSISVSTLLTYLATAYESNVTISKYKW
TDIANTLQNIYEKHMFFTNLTFSRETFLMLAEIANIIPDERMQRHMQLLIGNLCNP
VEIVSWARMLTADRAPNLENIYSPCASPVRDVTNSFLKTVLTYASLDTRYSDMMEML
SVYRPPNMERVAIQCLSPSEPAASLTLPNVTFVISPSYVIKGVSLTITTTIVATSII
ITAIPLNSTYVSTNYKYAGQDLLVLRNISSQTCEFCQSVVMEYDDIDGPLQYIYIKNI
DELKTLTDPNNLLVPNTRTHYLLAKNGSVFEMSEVGIDIDQVSIILVIYILIAII
ALFGLYRLRLC"

gene 80239..80997
/gene="U49"

CDS 80239..80997
/gene="U49"
/function="putative fusion protein"
/note="BHRF2; similar to HHV-5 UL76, HVS GENE 20, EBV
BXRf1, EHV1 37, VZV 35, HSV1 UL24"
/codon_start=1
/product="U49"
/protein_id="[AJA36263.1](#)"
/translation="MSLTGLPDIRKKIGQFHHLRIYKQILSFQGNFARLNYFLGDVFP
ANLRSASVSVFFEVRLGPRIPDCIVLLKSVDVKDEFAFHCYFFFEFKTTLGKSTMQSVH
HNCIHQAQYLQGLRQLQQSISFLDQYLIADSVSWNVVPVICFFRQWGLKLDFFKKFSG
KTKRLSFSFIRDLFARSQDGAVQSLLSIPNYTNFRACQKHTDLYRKRCKAPKSVLT
KTSGENRSRASRQVAKNAPKNRIRRTAKKDAKRQ"

gene 80774..82441
/gene="U50"

CDS 80774..82441
/gene="U50"
/function="virion protein"
/note="BHRF3; similar to HHV-5 UL77, HVS GENE 19, EBV
BVRf1, EHV 36, VZV 34, HSV1 UL25"
/codon_start=1
/product="U50"
/protein_id="[AJA36264.1](#)"
/translation="MAQC�LFYQYPITPILEGHVRNİLICTEKDVEKIQSQSSLRLRE
KIDQGHDKLLRMRLKTELDALQKKMQKDSVLNŠHLKAIEDALLFTNDGEVNVETKA
DAQLPKSPEKLEKFNQVAITPLDPFIRFTDDFRGEMINTFFNNAQMWNFTFGSWFYK
LKRVFYNEPGLRRALKLTNVDSLTISKELLAVTVNALEQATVYPIFGSEMSDLEAALC
ILAAFYSTYENSQIDERTTLEDVITLLPVIFRLLGSEITALKNVSPSGTYFGFNDPSC
MKFFVPMRKGKHYAENTFGNHVLIKMLLGRGVMQKIPGEKISQNFDEARLHGAIKND
VLVYWTYQLMRPKLGNNVPIFIHQHYLRSGLVAIESLFLWRIŁNSESLFNKRVGKF
LLTSVFPQLENVDFAEENNFEAGNIQNFEYLMHHYVVPMYNLQNDISISTLFPGLVAVC
VNESVRLGWEHKCAGAPSDAVQVQSKENPFVEYIRAQMEQQADVAİLEKHDCİLFHLE
NGLNİTİLSFTLPRQRLFAMASSLFNVNDTYDFİYFLVLGFLPIPAVİ"

gene 82536..83441
/gene="U51"

CDS 82536..83441
/gene="U51"
/function="G-protein coupled receptor; CC chemokine
receptor; constitutive and inducible signalling"
/note="XKRF1; similar to HHV-5 UL78, HVS GCR GENE 74;
similar to all G-protein coupled receptors"
/codon_start=1

```

/product="GCR"
/protein_id="AJA36265.1"
/translation="MGKETKSLAWPATAEFYGWVFISSQLCTMVLLTVRFNSFKVG
REYAVFTFAGMSFNCFLLPKMGLLSGHWSLPRDFCAILLYIDDFSIFYSSWSLVFMA
IERINHFCYSTPLLNENSKALAKVCFPVWIIISGVQALQMLNNYKATALQNETSQCF
AFLRSGHDMWMLVYSVMIPVMLVFIYLYSKNFMLLKDELSTVTTYLCIYLLGTIAH
LPKAGLSEIESDKIFYGLRDIFMALPVLKVVYIPVMAYCMACDDHTVPVRLCSIWLVN
LCKKCFSCTRREKESDLEVGKMLK"
gene      complement (83460..84236)
/gene="U52"
CDS       complement (83460..84236)
/gene="U52"
/note="XKLF1; similar to HHV-5 UL79, HVS GENE 18, EBV
BVRF1.5a/b"
/codon_start=1
/product="U52"
/protein_id="AJA36266.1"
/translation="MTQIGQYIKLNDVAVPNLILHITTKLLRNENLTSFKQEELLIIQH
VCTSMLSHGKILLRESLYNSGIGDIVILNRKISNNYWFRIFSILKQHSDAELLRHM
FNESHAYISKKLHYSNGVSHMINFLMDEFGVNLKIPEELICEGNIVFSVGAIIYNHR
LLKICRFFNRFWGDQEREPTVRLICKHLWFAYLIMFGKFEISTLAYNQQRAEHKAGLF
SFLQNDFKVFCGMPSENQQLDSSAIFDLTGISAEDLFSYE"
gene      84243..85829
/gene="U53"
CDS       84243..85829
/gene="U53"
/function="protease, assembly / scaffolding protein"
/note="XKRF1, OR; U53 protease, U53a in-frame assembly
protein, AP; similar to HHV-5 UL80, HVS GENE 17, EBV
BVRF2, EHV1 35, VZV 33, HSV1 UL26"
/codon_start=1
/product="protease/assembly protein"
/protein_id="AJA36267.1"
/translation="MSKVWVGGLFCVYGEEPSSECLALPRDTVQKELGSGNIPLPLNI
NHNEKATIGMVRGLFDLEHGLFCVAQIQSQTFMDIIRNIAGKSKLITAGSVIEPLPPD
PEIECLSSSFPGSLSSKVLQDENLDGKPFHHVSVCGVGRRPGTIAIFGREISWILD
RFSCISESEKRQVLDGVNVYSQGF DENLFSADLYDLLADSLDTSYIRKRFPKLQLDKQ
LCGLSKCTYIKASEPPVEIIVAATKVAGDQVQLTTEPGSELAVETCDVPVHGNYDAV
ESATATTAMSNQNLNPTTPLLSSPPFSDCVFLPKDAFFSLLNVTGQQPKIVPPVSVH
PPVTEQYQMLPYSESAKIAEHESNRYHSPQAMYPYQYSPVPQYPAALHGYSKST
LKKRHFQSDSEDELSFPGDPEYTKKRRRHRVDNDDKEMAREKNDLREIVDMIGMLRQ
EISALKHVRAQSPQRHIVPMETLPTIEEKGAASPKPSILNASLAPETVNRSLAGQNES
TDLLKLNKKLFVDALNKMDS"
gene      85095..85829

```

[CDS](#)

```
/gene="U53.5"  
85095..85829  
/gene="U53.5"  
/function="protease, assembly/scaffolding protein"  
/codon_start=1  
/product="capsid scaffold protein"  
/protein_id="AJA36268.1"  
/translation="MSNQNLPNNTPLLSSPPFSDCVFLPKDAFFSLLNVTGQQPKIV  
PPVSVHPPVTEQYQMLPYSESAAKIAEHESNRYHSPCQAMYQYSPVPQYPAALHG  
YRQSKTLKKRHFQSDSEDELSFPGDPEYTKKRRRHRVDNDDKEMAREKNDLRELVDM  
IGMLRQEISALKHVRAQSPQRHIVPMETLPTIEEKGAASPKPSILNASLAPETVNRSL  
AGQNESTDLLKLNKKLFVDALNKMDS"
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[gene](#)

```
complement(86013..87389)
```

[CDS](#)

```
/gene="U54"  
complement(86013..87389)  
/gene="U54"  
/function="tegument phosphoprotein, transactivation?"  
/note="1L, similar to HHV-5 UL82/83, pp65 /72K, possible  
virion transactivator IE genes"  
/codon_start=1  
/product="U54"  
/protein_id="AJA36269.1"  
/translation="MQPATLQWSSYVLQLRVTTTAILKPGELRLFKCGLGITPPSSAV  
VCICRDESSFTSSPFTYIDPKDYGNIPFAVQNISDLDDLRLPIVLNIFALPHANVN  
ISNLPVQRIEAHDRHIIPHGQCDAKFVIYGPLTRIKIKVADIRWIEQTPEEPTRYSEK  
AEIWNVLQNTPLDQIFKTANIEFISHKNVYISRILLCGNLLILKAKYENNYLLDDNFY  
PEQLAIQISLTPQTADITLSQNQETLLKCNTHSITVCATKNIIIPNTVTPVHCSFNTIF  
NSNSNFTGLFIPKLLLGISTTTGIWDETRPLYITMKAFKNRRINYSQPIGVVYFFPK  
QILPPGNNVEFNWTETSKLYVNTESPNGPVRNIVFTNQAVLRTPSLSTVANLTPDIN  
MGIFLSSLRVAFDTAHMVPLHFSKPGESTRMEFMPGTPQNLTILEGDVGIHFIPCH  
NHSHRSSP"
```

[gene](#)

```
complement(87467..88765)
```

[CDS](#)

```
/gene="U55"  
complement(87467..88765)  
/gene="U55"  
/note="2L, similar to HHV-5 UL84"  
/codon_start=1  
/product="U55"  
/protein_id="AJA36270.1"  
/translation="MFSPQLNHVLQLVFDCNHIVSNSYQEIIILKRISSTKPGILFIT  
DGTESETEDVLFVQFLEKTTTIKIKILPISRTVPVRIHLFSIPIYLPSSHALEIDIN  
ALCQKENIDPTVYEQYGLTNMPISTTNVINQFKVVQNDSEMSLILFNLNWTESPYQS  
QKLDYGRKLLIVFSVFSIDTRECYPYWENLFKSIIPLCRVNMISEPGISYKIEFNPD  
FLTIFLRNVVLPENKRRFPITKECYLRLTFSPPDRSTVTLMNMMPYFKICADGKNLEV"
```

FFPSDMSLVSNTNKEITLGEFTNKKIVGIFIPVQTHVFKLYPFLWFAQEPLKLRISC
ERTVSVTEHDMMLGRVFFVTNKLFRKPPFRSLSNSDMKSLLTHTENTDKPFDVHFMGNCF
PAYLLPELTLHPLEYEDKPARGNPQTLPSVEKHSIIKIRI"

[gene](#)

complement(88945..89835)
/gene="U56"

[CDS](#)

complement(88945..89835)
/gene="U56"
/function="probable capsid protein"
/note="3L; similar to HHV-5 UL85, HVS GENE 26, EBV BDLF1,
EHV1 43, VZV 41, HSV1 UL18"
/codon_start=1
/product="U56"
/protein_id="[AJA36271.1](#)"
/translation="METVYCTFDHKLSLSDISTLCKLMNIVIPIPAHHHLIGSGNLGL
YPIVSSNKKDYVHVRNVLRMTMVVTILQKVEGNQLVLRKPVTGHQYAIKNTGFPFWEKGD
TLTLIPPLSTHSEKLLKLGDWELTVPLVVPTAIAAEINIRLLCIGLIAVHREYNEMQ
TIIDELCSIQYRDVLIKLPDIVNDKQSMYSMTACISLSMITAMAPDIVRTYIDRLTL
EDHSMLLIKQCELLSKRTTLNTQRCGQLHATEIKDELKKVKSVLTMIDQINSLTNEKT
YFVVCDSADNRMATCIYKN"

[gene](#)

complement(89837..93874)
/gene="U57"

[CDS](#)

complement(89837..93874)
/gene="U57"
/function="major capsid protein"
/note="4L, mcp; similar to HHV-5 UL86 (MCP), HVS GENE 25,
EBV BcLF1, EHV1 42, VZV 40, HSV1 UL19"
/codon_start=1
/product="major capsid protein"
/protein_id="[AJA36272.1](#)"
/translation="MENWQATEILPKIEAPLNIFNDIKTYTAEQLFDNLRIYFGDDPS
RYNISFEALLGIYCNKIEWINFFTTPIAANAANVIRFNDVSRMTLGKVLFFIQLPRVAT
GNDVTASKETTIMVAKHSEKHPINISFDLSAACLEHLENTFKNTVIDQILNINALHTV
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HPIVHDSTIVERLMKSEPLPTGHRFSQQLKITRENPARILQTLNLYESRQEVKPN
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PVSFHEARTNQILEHAKTNCQNYDFTLKIVTESLTSGSYPELAYVIETLVHGKHAFFM
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VKRTISISNLNEQLCGEPLVNFANALFDGRLFCPFVHTMPRNDTNAKITADDTPLTQN
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ATSIILDDPTVTAEAKDIATTYNFTQHLSFVDMGLGFSSTTATANLKRIKSDMGSKIQ
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AICEVILTPVTTNINFFKSPHNPRGRESMMGTDPHNEEAARKALYDHTQTDSDTFAA
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CMKSNNSCLNSDSEIQYSCSEGTDSFVSRPCQFLQNALPLHCSSNQALLESRSKTGNTQ
ISETHYCNYAIGETIPFQLIIESSI"

[gene](#)

93886..96204

/gene="U58"

[CDS](#)

93886..96204

/gene="U58"

/note="5R; similar to HHV-5 UL87, HVS GENE 24, EBV BcRF1"

/codon_start=1

/product="U58"

/protein_id="[AJA36273.1](#)"

/translation="MQHTGNCETLIVNSCFGSTCARSIPVFIDSCDLTAEVSRDEETR
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NVLCTCELSMSDRYVATVYPKQNSIYLEEYPYFLCYLCRHLTVIEIEQCTNDLISLLG
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VVYEKIQNYKQYAIKTLRMSSKAVPAIQRCLCLAKFKQQLLYLNKVTVKKNKREMCLN
GFVYGKTLVVESSQLIFRNLLLLLYDYSLPDECKTNEENVLTAHYIRVISRLSFKRS
RSALPPGVRSDFI FVAQQPKRKELPNVPGGIDFAEITSVRHGAVTLNAFNTNKVMNLK
ATISKRANFVYHRIPKTMTHSFVMYKHTFKEPAFTVSTFVSNDLDMSSLNINIRGPY
CDFLYALGVYKMHVSIRDLFPAFVCNSNNSVDLQGLLENQDVVRNRKKKVYWITNFPC
MISNANKVNVGWFKAGTGII PRVSGEDLQNVLLQELNNVREIPGLVFMDLHQLLVLL
EQRNHLHQIPFLVKQFLIFLRLGLLMGYGHSSRNKVHDI MLHLISNGLFDFNKNNSVANT
KIKHGICALVGTRLANNVPKIIARQKKMKLDHMGNNANSLAVLRFIVKSGEQKNKTVFI
KLEYLEAETSTAINTRNEVARLLQTLTAKVKT"

[gene](#)

96201..97253

/gene="U59"

[CDS](#)

96201..97253

/gene="U59"

/note="6R; similar to HHV-5 UL88"

/codon_start=1

/product="U59"

/protein_id="[AJA36274.1](#)"

/translation="MNVLVADEWFDCAIRLDSETIAVHEIFNPESKLLNLHSKTVYM
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IFRERLSYIIYVLGSDVDIVARTEREIFQKCAELARLQQVFLIQGNIMENFVLVQACL
FQLGADGLWEEISGSVRPRPELMSSAFIQHRVMLNNCYCIAVIFNAIYKHKLSLPTVE

RSHETVNRVVQEYYKSYVNAPLSVLVCATKVLTLFTEEYNFKSALVFVSQFFQVDVEA
SRADVIRLFLACLKGD"

[gene](#)

complement(97250..102451)
/gene="U60/66"

[CDS](#)

complement(join(97250..98377,101579..102451))
/gene="U60/66"
/function="DNA packaging"
/note="7L; similar to HHV-5 UL89exon2, HVS GENE 29b, EBV
BDRF1, EHV1 44, VZV 42, HSV1 UL15EX2"
/codon_start=1
/product="U60/66"
/protein_id="AJA36275.1"
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NIKSTALFASCYNTHSIRGQSFNLLIVDESHFIKKDAFSTILGFLPQASTKILFISST
NSGNHSTSFLMKLNNSPFEMLSVVSVCEDHAHMLNERGNATACSCYRLHKPKFISIN
AEVKKTANLFLEGAFIHEIMGGATCNVINDVLITEQQQTEFEFFRYSTINKNLIPFLG
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[gene](#)

98389..98646
/gene="U62"

[CDS](#)

98389..98646
/gene="U62"
/note="8R; similar to HHV-5 UL91"
/codon_start=1
/product="U62"
/protein_id="AJA36304.1"
/translation="MNSALNDIKDDFENCETKDDLFKIIDKIIKNCDFIVEQVESLPR
RVDSAAILFDNLAVEIFNDVIYRQNGVAAKIRQNGGQDIDT"

[gene](#)

98594..99244
/gene="U63"

[CDS](#)

98594..99244
/gene="U63"
/note="9R; similar to HHV-5 UL92, HVS GENE 31, EBV BDLF4"
/codon_start=1
/product="U63"
/protein_id="AJA36276.1"
/translation="MELPRKYDRVTGRILTHKNNQMCTTECSQMYNLHNPITFELGLG
NVFVCMRCLTVHHCDMQTDCTIVNTHGYVCAKTGLFYSGWMPAYADCFLEPICEPNI

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ETVNVVVVLLSYVYSFLMENKERYAAIIDSIIKDGKFIKNVEDAVFYTFNAVFTNSTF
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gene      99222..100550
          /gene="U64"
CDS       99222..100550
          /gene="U64"
          /note="10R; similar to HHV-5 UL93, HVS GENE 32, EBV BGLF1,
          EHV1 45, VZV 43, HSV1 UL17"
          /codon_start=1
          /product="U64"
          /protein_id="AJA36277.1"
          /translation="METHLYYDILYQYQGGVYPAHICLPTDVCLPMRVCIESLYFRC
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          DSVILKLVYPQLVHREIVLRLYDIICVRPPSDRPSEASAKNIANDFYQLTSQGNKQTP
          DEEKRCLEFFQQGPLEPPSTVRGLKAPGNEKPIQFPAHANEMTESFLSDSWFGQKVR
          KKILDFTQTYQVVVCWYELSFREMQIENNLLSASQLKRVNAADFWDRTNRYLRDIGS
          RVLTHIVKTLQIHNRFQKQKFNCFDPNFSFDRLLSFMQLGKDFWILNLTLDSCIIKA
          IICFLGFQNGGKSFLAQDEVWGDLDIDCSKGSVIYGEKIQWILDSTNNLYSTCREKQNK
          SWELYVDCCALYVSEKLELDFVLPGGFAITGKFALTDGDIDFFNWRFGLS"
gene      100507..101514
          /gene="U65"
CDS       100507..101514
          /gene="U65"
          /note="11R; similar to HHV-5 UL94, HVS GENE 33, EBV BGLF2,
          EHV 46, VZV 44, HSV1 UL16"
          /codon_start=1
          /product="U65"
          /protein_id="AJA36278.1"
          /translation="MAISTFSIGDLGYLRNFLQNECNWFRICKKTFYREYRSVATSSP
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          YILELGSITPIDLGFIPRYNSDCVTNMRCVTPEVIYENCIVCPPEANRLTVKSGDN
          KLTPPLGGCGAWCLKNGGDLYIYTFALAYDLFLTCDYDKSTFPSLAKIIFDMIACESED
          VFCKDHNKHVSQAGQIVGCVSNQETCFCTPCKKKMANINNPILSLCDQEINKIDI
          MYPQIKASLSLDINSYAHGYFGDDPYALKCVNWIPVRISAALSRLIVLSCPVCRRVMD"
gene      102423..103484
          /gene="U67"
CDS       102423..103484
          /gene="U67"
          /note="13R; similar to HHV-5 UL95, HVS GENE 34, EBV BGLF3,
          EHV1 48, VZV 46, HSV1 UL14"
          /codon_start=1
          /product="U67"
          /protein_id="AJA36279.1"

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FFGIVQAYVFSWYSDFDFSALEISERARRRIRSLLYDLKQKFAEQEVSVLPPVASQMCIF
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LRKLLGALVISEGSKVFDI"

gene      103484..103828
/gene="U68"

CDS       103484..103828
/gene="U68"
/note="14R; similar to HHV-5 UL96, HVS GENE 35, EBV
BGLF3.5"
/codon_start=1
/product="U68"
/protein_id="AJA36280.1"
/translation="MSLKDYLRQSISKDLEVRHRDSLKIRLGERHPLSVHQHMIAARQ
IIKSDNAEQQHVISSLSGFLDKQKSFLRVQQKALKQLEKLDVDEIIDTAAEVKAVSND
IKETLIASTELE"

gene      103831..105519
/gene="U69"

CDS       103831..105519
/gene="U69"
/function="phosphotransferase, ganciclovir kinase"
/note="phosphotransferase; 15R; similar to HHV-5 UL97, HVS
GENE 36, EBV BGLF4, EHV1 49, VZV 47 HSV1 UL13"
/codon_start=1
/product="ganciclovir kinase"
/protein_id="AJA36281.1"
/translation="MDNGVETPQGQKTQPINLPPVRKKLRKHEGLGKGVKRKLFAEDS
PPLKKQISACSDMETLSSPVKSGCESRSASLDESFGKCKHETACDCSAIEELLCHESL
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SSPFLFDVQSEERSYSVVYVPHNKELCGQFCQPEKTMARVLGVGAYGKVFDDLKVAIK
TANEDESVISAFIAGVIRAKSGADLLSHECVINNLLISNSVCM SHKVSLSRTYDIDLH
KFEDWDVRNVMNYYSVFCKLADAVRFLNLKCRINHFDISPMNIFLNHKKEIIFDAVLA
DYSLSEMHHPNYNGTCAIAKEYDKNLQLVPISRNFCDMFNPGFRPLVANAMILVNVCG
AFDGENNPLRHCLDLCAFAQVVLSCVLRMTDKRGCREAQLYYEKRLFALANEACRLN
PLKYPFAYRDACCKVLAEHVVLLGLLFYRDVVEIYEKLYDFLDERGEFGSRDLFEATF
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gene      105527..106993
/gene="U70"

CDS       105527..106993
/gene="U70"
/function="alkaline exonuclease; DNA procession"

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/note="16R; similar to HHV-5 UL98, HVS GENE 37, EBV BGLF5, EHV1 50, VZV 48, HSV1 UL12"

/codon_start=1

/product="alkaline exonuclease"

/protein_id="AJA36282.1"

/translation="MDLDQISETLSSVAEEEP LTMFLLDKLYAIREKIKQVPFSIVRL
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KGQQFFGEAVIYGAKHERVIRHLVATFYVKREVKETLG LLLDPSSGVFGASLDACFGI
SFNEDGFLMVKEKALIFEIKFKYKYLRDKEDHFVSEL LKNPTEKSFSDFILSHPVPI
EFRER GKIPSSREYLMTYDFQYRPQRKLRTCPTPAILAPHIKQLLCLNETQKSTVIVF
DCKSDLCEQKLSVFQKAVFTVN VFVNPKHRYFFQSL LQQYVMTQFYINDHNNPEYIES
TEVPSVHIVTAFFRRRTEEERSLHLVIDETEYIEEEIPLALIVTPVAPNPEFTCCVIT
DICNLWENNICKQTSIQVWAQSAVNQYLAACVRKPKTP"

[gene](#)

106930..107175

/gene="U71"

[CDS](#)

106930..107175

/gene="U71"

/function="myrstilated virion protein?, phosphoprotein?"

/note="17R; positional similar to HHV-5 UL99, pp28k"

/codon_start=1

/product="U71"

/protein_id="AJA36283.1"

/translation="MGA KCKP VSCGMCKKTENTLIDYKGNPISLADEFTVLTDT ESE
EEGMADLEKPLLEKVQTTLVAKCDTEAEKKLPCKSKK"

[gene](#)

complement(107257..108291)

/gene="U72"

[CDS](#)

complement(107257..108291)

/gene="U72"

/function="integral membrane protein; associates with glycoprotein gN"

/note="glycoprotein M; gM; 18L; similar to HHV-5 UL100, HVS GENE 39, EBV BBRF3, EHV1 52, VZV 50, HSV1 UL10"

/codon_start=1

/product="integral membrane protein"

/protein_id="AJA36284.1"

/translation="MASSRVDTINLRIWLVSII CAALSFINVTVHLIAINFNLG FPC
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FSSNKTSNVNQTTTRDITWMGDTSSCFQFILIMDTFQLFVTALS FRLVALGAFAYC IFF
VCFTTFNVTLITQFQSADKSFFAFQKIHPNLKGT VQFKTVVINLT ELMLGYSTMFLGI
TTCLGVGNSIYIRSITVAYSSINTFLVMACIYSIVIEAVLVRYVKPLFGYVGMFCGA
VGLSFPILQYETFFESEWSTGLIINLAVIAIISIGFIICRLVRYLVKKKRRYKQLLNT
ESSSLMDENE"

[gene](#)

108304..110646

[CDS](#)

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/gene="U73"
108304..110646
/gene="U73"
/function="origin binding protein"
/note="DEAD-like helicases superfamily, CRISPR/Cas
system-associated protein Cas3; Region: Cas3; cd09639;
19R, HDRF0; similar to EHV1 53, VZV 51, HSV UL9"
/codon_start=1
/product="origin-binding protein"
/protein_id="AJA36285.1"
/translation="MENRFQNDTLFSEWFGQSLSDVRFDPDNTVYSQADSAVSFENV
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IESWIRYDVVIYTSVVTVGLSFEPVYFSSLFVYIQLAKGGPDMVSIFQSIGRVRVID
EDIYIYMNPVLIRSYDPLAPIAIPPCSDWSVAEQSIISESCIDFRGKCSGAHKYNFCS
VLKSLFRYRHYIEKTTITSLSDSLFLLCSLLCENSIVDIVGNFPMRKEVFLSFLQI
LVEECHFIEKKITLPGDDMTFQEIISRETIMNGDFYENGQQLLHKDYITDMGKFRAT
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PKSFLCDEYFVLGDISGVYEWGLIDLAFLAEMIRKDLKLKCTDTTTDISEDLLLC
AARRSSDILQIMQLVFTVHVQFFQKYSLQTLQLFNKLRGMRIVTGVFSIEKFSISILR
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[gene](#)

110615..112603

[CDS](#)

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/gene="U74"
110615..112603
/gene="U74"
/function="replication, helicase/primase complex"
/note="HDRF1; part of helicase/primase complex, similar to
HHV-5 UL102, HVS GENE 41, EBV BBLF3, EHV1 54, VZV 52, HSV1
UL8"
/codon_start=1
/product="helicase/primase complex"
/protein_id="AJA36286.1"
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SKKIRFGYSVMDFHFSITVSDVKICFSHTDTGEAVCEKMKQIFSFSVCAFGGEQVLLV
TPKNAYALLFDDDLCLLLQSVFAFLHEKIFGVYKQVLVQLCEYIGPDLWPFGNERSV
SFIGYPNLWLLSVSDLERRVPDTTYICREILSFCGLAPILGPRGRHVVPVRELNIEM
PGSETSLQRFRFNSQYVSSESLCFQTGPEDTHLFFSDSDMYVVTLDPCLRLLLKSTVP
KAFLPCFDENATEIDLLLKFMSRLQHRSYALFDAVIFMLDAFVSAFQRACTLMGMRWL
LVRDLHMFYLTCDGKDTHVVMPLLTAVENCWEKTTEIKQRPTFQCAEISRCGFIVYA"
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RFFLSSGLSQSKEAHWTVTASKYLSACIRTNKTGLCFASITVYFQDMMCVFIANRYNV
SYWIEEFDPNDYCLEYHEGLLDCSRYSRYTAVMSEDGQLVRQARGIALTDKINFSYYILVT
LRVLRRWVESKFEDVEQTQFIRWENRMLCEHIHLLHLN"

[gene](#)

complement(112638..113387)
/gene="U75"

[CDS](#)

complement(112638..113387)
/gene="U75"
/note="HDLF2; similar to HHV-5 UL103, HVS GENE 42, EBV
BBRF2, EHV1 55, VZV 53, HSV1 UL7, virion morphogenesis"
/codon_start=1
/product="U75"
/protein_id="AJA36287.1"
/translation="MKSLKKLKELETSDFNHLHVRTILKVIKIDKCISLARHPLVNI
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TLVCTLRHIF FNEHASEILHKVPLMIRLYNEMKNTHIEVLELYFNTKRSHNFINLSLE
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[gene](#)

complement(113296..115236)
/gene="U76"

[CDS](#)

complement(113296..115236)
/gene="U76"
/function="possible virion protein"
/note="HDLF1; similar to HHV-5 UL104, HVS GENE 43, EBV
BBRF1, EHV1 56, VZV 54, HSV1 UL6, DNA encapsidation"
/codon_start=1
/product="U76"
/protein_id="AJA36288.1"
/translation="MMWRNQSSGRRPSKRPSDNEATLSTINSILGAEDMLSKNLLSYL
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DNSHYNRYVDWICTVGIVPFMRTTPTAPNLYNLLQQVSSKLIHDIVRHKQNI VTPVLL
GLSSVIIPDFHNIKIFDRNSEQISCFKNKKAIAFFTYSTPYVIRNRLMLTTPLAHL
PELKKHNSLRHQKMCQLLNTFPIKVLTTAKTDVTNKKIMDMIEKEEKSSDAKSLIK
FLLNLSDSKSKIGIRDSVEGFIQEITPSIIDQNKMLN RGQFRKRSAIDTGERDV RDL
FKKQIIKCMEEQIQTMDEIETLKT TNQMFERKIKDLHSLLETNND CDRYNPNLDHDL
ENLSLSRALNIVQRLPFTSVSIDDTRSVANSFFSQYIPDTQYADKRIDQLWEMEYMRT
FRLRKNVNNQGQEE SITYSNYSIELLIVPFLRRFLNIYNLESIPEEF LFLSLGEILLA
IYESSIKHYLR LVYVRELNQISEVFNLTQTHPENSEPIFDSNIFSPNPENEILEKIK
RIRNLRRIQHLTRPNYPKGDQD"

[gene](#)

115079..117553
/gene="U77"

[CDS](#)

115079..117553
/gene="U77"
/function="replication"

/note="HDRF2; part of helicase/primase complex; similar to HHV-5 UL105, HVS GENE 44, EBV BBLF4, EHV1 57, VZV 55, HSV1 UL5"

/codon_start=1

/product="helicase"

/protein_id="AJA36289.1"

/translation="MSISSLFGGRYDNKFLNMSSAPKIELIVDKVASLSEGRLEGRLPEDWFRHIMDPETEFNSEFADALCIGIDEFAQPLPFLPFKALLVTGTAGAGKTNSIQTLAANLDCIVTATTTSIAAQNLSSVVLNRSKSAQVKTIKTFGFNSSHVSMSERQSYIANDERSIQIQKQDLSDIYWNVISDIADRALGAVACKTKELPDLCESSVIVIDEAGVILRHLHTVVFYWFYNALYKTPLYEDGIVPCIVCVGSPTQSNALVTSFNPLTQNKDVKRGIDVLSALICDDVLSKYCEVDNNWIIFVNNKRCADHAFGDFLKHIEFGLPLKPELIEYVDQFVKPASYIRNPMNEIETTRLFLSHNEVKNYFRSLHEQVEVTNRNNLFVFPVYFLIKNKTEDYKSEIGNFSLEIEPWFKSNIHRLNTYSQFADQDLSKTVQLEEIVLEDGSVEETLITCHLKHIRNSSIGVTSKIKASTVGFSGTYEKFVELLQSDLFIEKTSCDQTIHAYSFLSGLMFGGMYSFCCSKFTTPEVLMEIKNIKMPSEIEFLESEMSRMSPDVQTVETDERYDFGLVDDGLSDVDLLEIDPCGDPFFTRYSKLPLTNSLSFEEISLLYTTFKDIFISRFAILQKHTKGKFGKTLTVYNRNNVSRKQCGEIIYSHLKSFGMLTYAIPANNYTLEGYTNDNVVHLGTDKQLPQILYKKGLPRLVIKDEMGFISVLDNNVSKFIDVVNGQSFHLCTTVDYATVSKVSMTITKSQGLSIQKVAIDFGSDPKNLKLSSIIYVGMSRVTDPNNLIMNVNPLRLNYENDNFIAPHIVKALKNENTMLIF"

[gene](#)

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[CDS](#)

join(120145..120775,120872..121068,121151..121747)

/gene="U79"

/function="possible replication protein"

/note="EDRF1; similar to HHV-5 UL112/113, spliced in vitro replication protein"

/codon_start=1

/product="putative replication protein"

/protein_id="AJA36290.1"

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[gene](#)

complement(121791..122558)

/gene="U81"

[CDS](#)

complement(121791..122558)

/gene="U81"

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/function="uracil-DNA glycosylase"
/note="EDLF4; similar to HHV-5 UL114, HVS GENE 46, EBV
BKRF3, EHV1 61, VZV 59, HSV1 UL2"
/codon_start=1
/product="uracil-DNA glycosylase"
/protein_id="AJA36291.1"
/translation="MALLQWMLDHVQDEEKNCENLSIDDQHSLFGINRDWLSFLQLSK
LEITHLKHVYKLVNDRAHLTVHPSPGNVHAWSFLLCKPDDVKVVLGQDPYPDGRGCG
LAFGTVKECSIPESLKNIFKELERSVPNFSPPDNGCLNSWCSEGVLLINSIFTVVHGL
PMSHEAFGWQTLSTYKIISKLSIEMDSLVLFWGNHARKLSYLLIDARKHLVLESAPSP
KVKSARMPFIGCNHFVRANLFLTEHGKDPINWNILNE"
gene      complement(122634..123386)
/gene="U82"
CDS       complement(122634..123386)
/gene="U82"
/function="glycoprotein L, gL, gH/gL complex, infection,
cell fusion"
/note="gL; EDLF3; gH (U48) and gL form a heterodimer
(gH/gL complex, this complex forms different heterotrimers
gH/gL/gO or gH/gL/gQ); similar to HHV-5 UL115, HVS GENE
47, EBV BKRF2, EHV1 62, VZV 60, HSV1 UL1"
/codon_start=1
/product="glycoprotein L"
/protein_id="AJA36292.1"
/translation="MELLLFVMSLILLTFSKAIPLFNHNSFYFEKLDDCIAAVINCTK
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TGVELDLLKHMETYNKLPFRSSRPITILIRNT"
gene      123510..123803
/gene="U83"
CDS       123510..123803
/gene="U83"
/function="CC chemokine; immune regulation"
/note="EDRF3"
/codon_start=1
/product="U83"
/protein_id="AJA36293.1"
/translation="MAIGFICSSPDALFSEKSRISSSVLLGCLLCMDWSAAVPGKT
ESFRKLFDAVMIKKLKSCSAAYPSDLEQGSMDMADASPTSLELGLSKLDKES"
gene      complement(123909..124937)
/gene="U84"
CDS       complement(123909..124937)
/gene="U84"

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/note="EDLF2; similar to HHV-5 UL117, spliced in HHV-5"
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/protein_id="AJA36294.1"
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INVGEQIISESVHHEPVVAIAINQFFRGTVPQTDALRKNNAVTPIPVNASKKKLVGICS
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DDYGKLLN"
gene complement(124965..125837)
/gene="U85"
CDS complement(124965..125837)
/gene="U85"
/function="immune regulation"
/note="type 1 membrane protein; contains a signal peptide;
IgG Fc-binding; similar to OX-2; possibly UL120 family;
EDLF1; OX-2; immunoglobulin superfamily, V and C chain
domains"
/codon_start=1
/product="U85"
/protein_id="AJA36295.1"
/translation="MSSLMLRLLPLLYIISAHFVLHPETSPSLIYEIGSIVTFHCLRN
TTTNI RSVSWYNKSRLISNHEVQNM DNLSFTDDGHVLIHELKINNLA VDSKLYFHIK
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VTCTVTSYPKPNVVIKFLGEVYKRDIPIVRQNGSSSTVSVNFTFKRRRTKLEFVGKTV
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IVLLISVCIVAFKS"
gene complement(125974..135636)
/gene="U86"
CDS complement(join(125974..130085,135296..135489,
135578..135636))
/gene="U86"
/function="transactivation"
/note="BCLF1; similar to HHV-5 UL122, IE2; region IE-A,
immediate early gene"
/codon_start=1
/product="immediate early protein IE2"
/protein_id="AJA36296.1"
/translation="MEPAKPSGNNMGSNDERMQDYRPDPMMEE SIQQILEESLMCDTS
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YNPISKDFKSKFSTLSKC"

[repeat_region](#) 127485..128169

/note="R1; encodes SR repeats"

/rpt_type=tandem

[repeat_region](#) 131014..131791

/note="R2; TG degenerate repeats"

/rpt_type=tandem

[gene](#)

complement(132616..135636)

/gene="U90"

[CDS](#)

complement(join(132616..135188,135296..135489,
135578..135636))

/gene="U90"

/function="transactivation, immediate early, IE1; PML
SUMO-1 interaction nuclear phosphoprotein"

/note="pRF3/4, RF2; positional similar to HHV-5 IE1,
transactivator; region IE-A"

/codon_start=1

/product="immediate early protein IE1"

/protein_id="[AJA36297.1](#)"

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gene

135791..136354

/gene="U91"

CDS

join(135791..136001,136104..136354)

/gene="U91"

/function="antisense transcription regulation?"

/note="spliced antisense IE1; region IE-A"

/codon_start=1

/product="U91"

/protein_id="AJA36298.1"

/translation="MGKMSSTGNGKTNLKILACMLLI FLIATISLLILEIISGQRYSN
DDSEGVTAAALKHVSTPTNCTETTTTDFVTSQATGNKESMKKNEGEPPVWQALTTTL
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repeat_region

137341..138216

/note="R3"

/rpt_type=tandem

gene

complement(138714..140186)

/gene="U94"

CDS

complement(138714..140186)

/gene="U94"

/function="transactivation, replication inhibition, helper
for parvovirus replication"

/note="HCLF2; similar to parvovirus AAV2 Rep 68/78"

/codon_start=1

/product="Rep"

/protein_id="AJA36299.1"

/translation="MFSIINPSDDFWTKDKYIMLTIKGPMWEAEIPGISTDFFCKFS
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DKVIPRNFVPIQKDDINQFLFWARNRSINCFIDYTVPKIL"

gene      140261..143629
          /gene="U95"

CDS       140261..143629
          /gene="U95"
          /function="GRIM19 interaction, mitochondria damage"
          /note="HCRF2; similar to MCMVIE2, similar to HHV-5 UL28,
          HHV-5 US22 gene family"
          /codon_start=1
          /product="U95"
          /protein_id="AJA36300.1"
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          TVCMNGRRRRTFFRQCVTAFGPLSKLIYFKELLQSYVSKNNNSYLSISWPPKHGVYVM
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          SNPATKATVLIADKDLKIYGYHKGRPRIRYLCKNVKTFKAGARKFYLDQITPKSL
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gene      complement(143967..147605)
          /gene="U100"

CDS       complement(join(143967..144306,144416..144544,
          144703..144712,145226..145386,145474..145587,
          145679..145786,145882..145959,146077..146412,
          146813..147094,147196..147605))
          /gene="U100"
          /function="cell entry"
          /note="contains a signal peptide; complexed with envelope
          glycoprotein H and L; binds CD46; splicing pattern
          possibly different from that derived from cDNA with exon 8

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more extensive at its 5'-end; gp82 /105; spliced
glycoprotein"
/codon_start=1
/product="glycoprotein gQ"
/protein_id="AJA36301.1"
/translation="MATARLGVMKPPRSCALIFLCAFSMATAPTNATAHRRAGTVKST
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repeat_region 148559..156714

/note="DRR; contains pac1 and pac2 sites; tandem telomeric
repeat array; direct terminal repeat with DRL; can mediate
DNA cleavage and packaging into preformed capsid"
/rpt_type=direct
/rpt_type=terminal

gene 149059..151298

/gene="DR1"

CDS

join(149059..149302,149386..151298)

/gene="DR1"

/note="DR1R; direct repeat of DR1 in DRL; contains CXC
motif; DR1/DR6 gene family"

/codon_start=1

/product="DR1"

/protein_id="AJA36302.1"

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SHSVSLFLKTGLRHCEAIYRAPLWRDRPLPSLWTCRDPDKAFLPTLLARSARRGLAAF
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          /gene="DR6"
CDS       join(153350..153653,154496..155370)
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          /note="DR6R; direct repeat of DR6in DRL; DR1/DR6 gene
          family; contains CXC motif"
          /codon_start=1
          /product="DR6"
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ORIGIN

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