

Constructs used in this study

Tev169-xOnu (MegaTev)

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSKPGSKNGRWNPEHFKFCKCGVRIQTSAY
TCSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKV
GVIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK
KAFPEIISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSN SKLGVQVQLVFSITQHIKDKNLMNSLITYLGC GYIKEKNRS
EFSWLD FVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

V117F Tev169-xOnu

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSKPGSKNGRWNPEHFKFCKCGVRIQTSAY
TCSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKV
GVIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK
KAFPEIISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSN SKLGVQVQLVFSITQHIKDKNLMNSLITYLGC GYIKEKNRS
EFSWLD FVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

S134G Tev169-xOnu

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSGKPGSKNGRWNPEHFKFCKCGVRIQTSAY
TCSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKV
GVIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK
KAFPEIISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSN SKLGVQVQLVFSITQHIKDKNLMNSLITYLGC GYIKEKNRS
EFSWLD FVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

K135N Tev169-xOnu

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSNPGSKNGRWNPEHFKFCKCGVRIQTSAY
TCSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKV
GVIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK
KAFPEIISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSN SKLGVQVQLVFSITQHIKDKNLMNSLITYLGC GYIKEKNRS
EFSWLD FVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

K135R/N140S Tev169-xOnu

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSRPGSKSGRWNPEHFKFCKCGVRIQTSAYT
CSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKVG
VIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK
AFPEIISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSN SKLGVQVQLVFSITQHIKDKNLMNSLITYLGC GYIKEKNRSE
FSWLD FVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

V117F/K135N Tev169-xOnu

MKSGIYQIKNTLNNKVYVGSADFEKRWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVKAKMLKLGPDGRKALYSNPGSKNGRWNPEHFKFCKCGVRIQTSAY
TCSKCRNGSGSGGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWKV
GVIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELK

KAPPEISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSNKLGVQVQLVFSITQHIKDKNLMNSLITYLGCGYIKEKNRS
EFSWLDVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

V117F/K135R/N140S Tev169-xOnu

MKSGIYQIKNTLNNKVYVGS AKDFEKRWRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVAKAKMLKLGPDGRKALYSRPGSKSGRWNPEHFKFCKGVRIQTSAYT
CSKCRNGGSGGSGSAYMSRRESINPWILTFADAQGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWVKVG
VIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELKK
AFPEISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSNKLGVQVQLVFSITQHIKDKNLMNSLITYLGCGYIKEKNRSE
FSWLDVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

xTev169-Onu

MKSGIYQIKNTLNNKVYVGS AKDFEKA WKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKEL
NSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVAKAKMLKLGPDGRKALYSKPGSKNGRWNPEHFKFCKGVRIQTSAY
TCSKCRNGGSGGSGSAYMSRRESINPWILTFADAEGSFLLRIRNSNKR SVGYATELGFQICLHIKDKSILENIQSTWVKVG
VIANS GDNAVSLRVTRFEDLKVIIDHFEKYPLITQKLG DYMLFKQAF CVMENKEHLKINGIKELVRIKAKLNWGLTDELKK
AFPEISKERSLINKNIPNFKWLAGFTSGEGCFFVNLIKSNKLGVQVQLVFSITQHIKDKNLMNSLITYLGCGYIKEKNRSE
FSWLDVVTKFSDINDKIIPVFQENTLIGVKLEDFEDWCKVAKLIEEKKHLTESGLDEIKKIKLNMNKGRVF

TevCas9

MKSGIYQIKNTLNNKVYVGS RKF EKA WKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKE
LNSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVAKAKMLKLGPDGRKALYSKPGSKNGRWNPEHFKFCKGVRIQTS
YTCSKCRNGGSGGSDKKYSIGLDIGTNSVGWAVITDEYKVP SKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTA
RRRYTRRKNRICYLQEIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKAD
LRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLI AQLPGE
KKNGLFGNLI ALSGLTPNFKSNFDLAEDAKLQLSKDTYDDDLDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITK
APLSAMIKRYDEHHQDLTLLKALVRQQLP EKYKEIFFDQSKNGYAGYIDGGASQE EYKFIKPILEKMDGTEELLVKNR
EDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFY PFLKDNREKIEKILTFRIPYVGLARGNSRFAWMTRKSEETIPW
NFEVV DKGASAQSFIERMTNFDKNLPNEKVLPHSLLYEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTN
RKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLKIIKDKDFLDNEENEDILEDIVLTLTFEDREMIEERLKYA
HLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDFANRNFMQLIHDDSLTFKEDIQKAQVSGQGD
SLHEHIANLAGSPA IKKILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIE EGKELGSQILKE
HPVENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVV
KKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDKAGFIK RQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVI
TLKSKLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVG TALIKKYPKLESEFVYGDYKVVYDVRKMI AKSEQEIGKATAKYF
FYSNIMNFFKTEITLANGEIRKPLIETNGETGEIVWDKGRDFATVRKVL SMPQVNIVKKTEVQTGGFSKESILPKRNSDK
LIARKKDWDPKKGFDSPVAYSVLVVAKEVGKSKKLKSVKELLGITIMERS SFEKNPIDFLEAKGYKEVKKDLIILPKY
SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEK LKGS PEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILA
DANLDKVL SAYNKH RDKPIREQAENIIHLFTLNLGAPAAFKYFDTTIDRKRYTSTKEVLDATLIHQ SITGLYETRIDLSQLG
GDKRPAATK KAGQAKKK

R27A xTevCas9

MKSGIYQIKNTLNNKVYVGS AKDFEKA WKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKE
LNSKINGYNIADATFGDTCSTHPLKEEIIKKRSETVAKAKMLKLGPDGRKALYSKPGSKNGRWNPEHFKFCKGVRIQTS
YTCSKCRNGGSGGSDKKYSIGLDIGTNSVGWAVITDEYKVP SKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTA
RRRYTRRKNRICYLQEIFSNEMAKVDDSFHRL EESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKAD
LRLIYLALAHMIKFRGHFLIEGDLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLI AQLPGE
KKNGLFGNLI ALSGLTPNFKSNFDLAEDAKLQLSKDTYDDDLDNLLAQIGDQYADLFLAAKNLSDAILSDILRVNTEITK

APLSASMIKRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNR
EDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGPLARGNSRFAWMTRKSEETITPW
NFEEVVDKGASAQSFIERMTNFDKPNLNEKVLPHKSHLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTN
RKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYA
HLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSLTFKEDIQKAQVSGQGD
SLHEHIANLAGSPAIKKILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGKELGSQILKE
HPVENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRKGSDNVPSEEVV
KKMKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVI
TLKSKLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVGTAALIKKYPKLESEFVYGDYKVDVRKMIKSEQEIGKATAKYF
FYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDK
LIARKKDWDPKKYGGFDSPTVAYSVLVAKVEKGSKLLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKY
SLFELENGRKRMLASAGELQKGNELALPSKYVNFYLYLASHYEKLGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILA
DANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLG
GDKRPAATKKAGQAKKKK

V117F (V) TevCas9

MGKSGIYQIKNTLNNKVYVGSRKDFEKAWKRHF KDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKE
LNSKINGYNIADATFGDTCSTHPLKEEIIKKRSETFKAKMLKLGPDGRKALYSKPGSKNGRWNPETHKFCCKGVRIQTSAY
TCSKCRNGGSGGSDKKYSIGLDIGTNSVGWAVITDEYKVP SKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTAR
RRYTRRNRYCYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKADL
RLIYLALAHMIKFRGHFLIEGDLNPDNSVDKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLIAQLPGEK
KNGLFGNLI ALSGLTPNFKSNFDLAEDAKLQLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITKA
PLSASMIKRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNR
DLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGPLARGNSRFAWMTRKSEETITPWN
FEEVVDKGASAQSFIERMTNFDKPNLNEKVLPHKSHLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR
KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYAH
LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSLTFKEDIQKAQVSGQGD
SLHEHIANLAGSPAIKKILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIEEGKELGSQILKEHP
VENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRKGSDNVPSEEVVKK
MKNYWRQLLNAKLITQRKFDNLTKAERGGLSELDKAGFIKRQLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITL
KSKLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVGTAALIKKYPKLESEFVYGDYKVDVRKMIKSEQEIGKATAKYFFY
SNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLSPQVNIKKTEVQTGGFSKESILPKRNSDKLI
ARKKDWDPKKYGGFDSPTVAYSVLVAKVEKGSKLLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLIILPKYSL
FELENGRKRMLASAGELQKGNELALPSKYVNFYLYLASHYEKLGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILAD
ANLDKVL SAYNKH RDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGG
DKRPAATKKAGQAKKKK

V117F/K135N (VK) TevCas9

MGKSGIYQIKNTLNNKVYVGSRKDFEKAWKRHF KDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIERENFWIKE
LNSKINGYNIADATFGDTCSTHPLKEEIIKKRSETFKAKMLKLGPDGRKALYSNPGSKNGRWNPETHKFCCKGVRIQTS
YTCSKCRNGGSGGSDKKYSIGLDIGTNSVGWAVITDEYKVP SKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTA
RRYTRRNRYCYLQEIFSNEMAKVDDSFHRLEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLVDSTDKAD
RLIYLALAHMIKFRGHFLIEGDLNPDNSVDKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLIAQLPGE
KNGLFGNLI ALSGLTPNFKSNFDLAEDAKLQLSKDTYDDDLNLLAQIGDQYADLFLAAKNLSDAILLSDILRVNTEITK
APLSASMIKRYDEHHQDLTLLKALVRQQLEPKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKLNR
EDLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYFPLKDNREKIEKILTRIPYYVGPLARGNSRFAWMTRKSEETITPW
NFEEVVDKGASAQSFIERMTNFDKPNLNEKVLPHKSHLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTN
NFEEVVDKGASAQSFIERMTNFDKPNLNEKVLPHKSHLLYEFYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTN

RKVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYA
HLFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSITFKEDIQKAQVSGQGD
SLHEHIANLAGSPAIKKILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIIEGKELGSQILKE
HPVENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVV
KKMKNYWRQLLNAKLITQRKFDNLTKAERGGSELDKAGFIKRLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVI
TLKSKLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVGTAIIKYPKLESEFVYGDYKVDVRKMIKSEQEIGKATAKYF
FYSNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLVSMQPQVNIKKTEVQTGGFSKESILPKRNSDK
LIARKKDWDPKKYGGFDSPTVAYSVLVAKVEKGSKKLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKY
SLFELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILA
DANLDKVL SAYNKHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLG
GDKRPAATKKAGQAKKKK

V117F/K135R/N140S (VKN) TevCas9

MGKSGIYQIKNTLNNKVYVGSRKDFEKAWKRHFKDLEKGCHSSIKLQRSFNKHGNVFECSILEEIPYEKDLIIERENFWIKE
LNSKINGYNIADATFGDTCSTHPLKEEIIKRSSETFKAKMLKLGPDGRKALYSRPGSKSGRWNPETHKFCCKGVRIQTSAY
TCSKCRNGSGGSDKKYSIGLDIGTNSVGVAVITDEYKVPSSKFKVLGNTDRHSIKKNLIGALLFDSGETAEATRLKRTAR
RRYTRRKNRICYLQEIFSNEMAKVDDSFHRLSEESFLVEEDKKHERHPIFGNIVDEVAYHEKYPTIYHLRKKLV DSTDKADL
RLIYLALAHMIKFRGHFLIEGLNPDNSDVKLFIQLVQTYNQLFEENPINASGVDAKAILSARLSKSRRENLIAQLPGEK
KNGLFGNLIASLGLTPNFKSNFDLAEDAQLQSKDQYDDDLNDLLAQIGDQYADLFLAAKNLSDAILLSILRVNTEITKA
PLSASMIKRYDEHHQDLTLKALVRQQLPEKYKEIFFDQSKNGYAGYIDGGASQEEFYKFIKPILEKMDGTEELLVKNRE
DLLRKQRTFDNGSIPHQIHLGELHAILRRQEDFYPLKDNREKIEKILTRIPYVVGPLARGNSRFAMTRKSEETIPWN
FEEVVDKGASQSFIERMTNFDKNLPNEKVLPKHSLLEYFTVYNELTKVKYVTEGMRKPAFLSGEQKKAIVDLLFKTNR
KVTVKQLKEDYFKKIECFDSVEISGVEDRFNASLGTYHDLLKIIKDKDFLDNEENEDILEDIVLTLTLFEDREMIEERLKTYA
LFDDKVMKQLKRRRYTGWGRLSRKLINGIRDKQSGKTILDFLKSDGFANRNFMQLIHDDSITFKEDIQKAQVSGQGD
HEHIANLAGSPAIKKILQTVKVVDELVKVMGRHKPENIVIAMARENQTTQKGQKNSRERMKRIIEGKELGSQILKEHP
VENTQLQNEKLYLYLQNGRDMYVDQELDINRLSDYDVDHIVPQSFLKDDSIDNKVLTRSDKNRGKSDNVPSEEVVKK
MKNYWRQLLNAKLITQRKFDNLTKAERGGSELDKAGFIKRLVETRQITKHVAQILDSRMNTKYDENDKLIREVKVITL
KSKLVSDFRKDFQFYKVRINNYHHAHDAYLNAVVGTAIIKYPKLESEFVYGDYKVDVRKMIKSEQEIGKATAKYFFY
SNIMNFFKTEITLANGEIRKRPLIETNGETGEIVWDKGRDFATVRKVLVSMQPQVNIKKTEVQTGGFSKESILPKRNSDKLI
ARKKDWDPKKYGGFDSPTVAYSVLVAKVEKGSKKLKSVKELLGITIMERSSEKPNIDFLEAKGYKEVKKDLIIKLPKYSL
FELENGRKRMLASAGELQKGNELALPSKYVNFLYLASHYEKLGSPEDNEQKQLFVEQHKHYLDEIIEQISEFSKRVILAD
ANLDKVL SAYNKHRDKPIREQAENIIHLFTLTNLGAPAAFKYFDTTIDRKRYTSTKEVL DATLIHQ SITGLYETRIDLSQLGG
DKRPAATKKAGQAKKKK