

### a) Membrane fusion protein (P10)

MelV 1 MSGDCAGLVSVFGSVHCQSSSKNKAGGDLQATSILTTYWPHLAVGGGIILVIFLLGLFYCC  
PulV 1 MSGDCAGLVSVFGSVHCQSSSKNKAGGDLQATSILTTYWPHLAI GGGIILVIFLLGLFYCC  
NBV 1 MSSDCAKI VSVFGSVHCQSSSKNSAGGDLQATSVF TTYWPHFAI GGGIIVVILLGLFYCC

MelV 61 YLKWKTSHIRRITYHKELVALTRGYVRPISADVTSV  
PulV 61 YLKWKTSHIRRITYHKELVALTRGYVRPISADVTSV  
NBV 61 YLKWKTSQVKHTYRRELIALTRSHVHSTPSGISYV

**Sequence identity:** MelV:PulV = 98%; MelV:NBV = 70%; PulV:NBV = 71%

### b) P17

MelV 1 MSGRSRRTL PVSDCSFYGPWII SGTYPVVS LICFREITYYINVDI PLDHPQRVSLPHIAT  
PulV 1 MSGRSRRTL PVSDCSFYGPWII SGTYPVVS LICFREITYYINVDI PLDHPQRVV LPHLVA  
NBV 1 MSIQPHLVFRMCES SFYEPWVR SGRSEI SFICRREL TYYINVH IPLDHPQRSVACALSQ

MelV 61 DPVVWHVQLVGRRAADSSKPYFCELD CVLIRV TPLT NHN-----RSHV I I H Y S P F A Q S P A  
PulV 61 DPVVWHVQLINRRATDSFKPYFCELD CVLIRV TPLT SHN-----RSHV I I H Y S P F A Q S P A  
NBV 61 TPVAWHVSLLRRRSYDPSLPDFCELD CVLRHIRP IPRRLVSRGFS SHV V V H Y D R T T Q S P A

MelV 116 AKRSYRFDHDDDPEHKRFAIRS ICSSR  
PulV 116 AKRSYRFDHDDDPEHKRFAIRSVCYSQ  
NBV 121 AKRGCSLDFDDEPEHKRFAI-----

**Sequence identity:** MelV:PulV = 91%; MelV:NBV = 48%; PulV:NBV = 50%

### c) Cell attachment protein (sigma C)

MelV 1 MSSFTIHHSLNPQORREVIALIMTMTQSIASRSDL SALRDELASLR TKVTDVSSQLALA  
PulV 1 MSSFTIHHSLNPQORREVIALIMTMTQSIASRSDL SAIRSELMSLRSTVGLSSQFAST  
NBV 1 -----MTEP LSPQORKEVVALILTMNQSIASRS DMSALEKRVSIIESAQAALRVDVTSL

MelV 61 SSTITQLSTQCSALS AELASYS DTLSTLSSTIASHTDKLSELS TSLTSTSSRLDATADSV  
PulV 61 SSGLAQLSTQCN AFSVEIASHSNAIATLVSTATSHS DKMSEFT TSLTDASSKLSVVS DSV  
NBV 56 QSVSSGLNSTMHDLSASVANLKTIVNTMSSTVATMEGELQSCCKSEISNTQNVLSVVQTEL

MelV 121 TQLSSDYASLR TDVTNLKSSLSLAAQVNSLETKLNDTTQTPKQVLSPLAINDGTLTLN  
PulV 121 DQLSLNYKLTETDVLNAKSSLSLAAQVNSLESRLNDTTQTPKQVLSPLTINEGALTLN  
NBV 116 SNAQSGLASMTTSLSNLTTSVNANAVAI SGLKASLNSLSSSIPTSLASPLTVSGILSL

MelV 181 MNPRFCRDSAGLASYSQTLLQTF SANLASSIPN TNLATTIIVHSHGVSSTFNLT SQHAF  
PulV 181 MNPRFCS DSAGLASYSQT-LQTF TANLASSIPD TNLAATTIIVHSHGVSSTFNLT SKHAF  
NBV 176 MNRKFCGDAAGLNSYS T L S Q M Q S F N S N V P T S L S G T N L S T S I L V H S R G G L T V F N L S T T H A F

MelV 241 EPNAAKTQLTLDIRQFQPTPTDWSVLLAQAQAFQASDFLGYAWASVAGIWA PITLVGRVDS  
PulV 240 SPSTEK TQLTLDIRQFQPSPTDWSVLLAQAQAFQASDFLGYAWAS IAGIWS PITLVGRVSS  
NBV 236 TPTSVDTKLTIDCRTFTPSPSDWSVLIPKPAFQSSNFLCTGWMCVNDAWIPASVIGAVDS

MelV 301 NPKVITLQLGTPSMDRITGLVLTFSIDT  
PulV 300 NPKLITLQLGTNPMDRITGLVLTFSIDT  
NBV 296 NPKVMFLHLITRPSQRITGLVIYFSIDT

**Sequence identity:** MelV:PulV = 78%; MelV:NBV = 40%; PulV:NBV = 38%