

Figure 1

SEQ ID NOs: 11-76

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO: 11)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO: 12)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEP
RPIGTRYLTRNL (SEQ ID NO:13)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQ
DRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSE
RPIGTRYLTRNL (SEQ ID NO:14)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIG
TRYLTRNL (SEQ ID NO:15)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO:16)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPR
PIGTRYLTRNL (SEQ ID NO:17)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNARQAATADVNTQGVLPGMVWQ
DRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEP
RPIGTRYLTRNL (SEQ ID NO:18)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO: 19)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO: 20)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSE
RPIGTRYLTRNL (SEQ ID NO:21)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQ
DRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSE
RPIGTRYLTRNL (SEQ ID NO:22)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIG
TRYLTRNL (SEQ ID NO:23)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFSRQWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPI
GTRYLTRNL (SEQ ID NO:24)

Figure 1 (continued)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYYDFNRFHCHFSRQWLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPR
PIGTRYLTRNL (SEQ ID NO:25)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYYDFNRFHCHFSRQWLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNARQAATADVNTQGVLPGMVWQ
DRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEP
RPIGTRYLTRNL (SEQ ID NO:26)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG

Figure 1 (continued)

GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNATADVNTQGVLPGMVWQDRDVYLQGP
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
QVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYLTR
NL (SEQ ID NO:27)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAE GSGRNATADVNTQGVLPGMVWQDRDVYLQ
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYLT
RNL (SEQ ID NO:28)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA

Figure 1 (continued)

RKRLNFGQTGDADSVDPDQPLGQPPAAPSGGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEY SWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYS
TGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYL
TRNL (SEQ ID NO:29)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRWDQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEY SWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTR
YLTRNL (SEQ ID NO:30)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGGLGTNTMATGSGAPMADNNEGADGVG

Figure 1 (continued)

NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRQDWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNATADVNTQGVLPGMVWQDRDVYLQGP
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
QVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIGTRYLTR
NL (SEQ ID NO:31)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRQDWRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQGP
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIGTRYLT
RNL (SEQ ID NO:32)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP

Figure 1 (continued)

WGYFDENRFHCHFSRDLWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYS
TGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDINGVYSEPRPIGTRYLT
RNL (SEQ ID NO:33)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQA KKRVL EPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRDLWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRQLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDINGVYSEPRPIGTR
YLTRNL (SEQ ID NO:34)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQA KKRVL EPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRDLWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN

Figure 1 (continued)

NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNATADVNTQGVLPGMVWQDRDVYLQGPI
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
QVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEPRPIGTRYLTR
NL (SEQ ID NO:35)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAE GSGRNATADVNTQGVLPGMVWQDRDVYLQG
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEPRPIGTRYLT
RNL (SEQ ID NO:36)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN

Figure 1 (continued)

NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYS
TGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSVNVDFTVDTNGVYSEPRPIGTRYL
TRNL (SEQ ID NO:37)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSVNVDFTVDTNGVYSEPRPIGTR
YLTRNL (SEQ ID NO:38)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS

Figure 1 (continued)

SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNA TADVNTQGVLPGMVWQDRDVYLQGPI
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG
QVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIGTRYLTR
NL (SEQ ID NO:39)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAE GSGRNA TADVNTQGVLPGMVWQDRDVYLQG
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIGTRYLT
RNL (SEQ ID NO:40)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT

Figure 1 (continued)

NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYS
TGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDITNGVYSEPRPIGTRYLT
RNL (SEQ ID NO:41)

MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSDGNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDITNGVYSEPRPIGTR
YLTRNL (SEQ ID NO:42)

SEQ ID NO:43:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN

Figure 1 (continued)

NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:44:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:45:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSDGNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS

Figure 1 (continued)

SFYCLEYFPSQMLRTGNNFTFSYTFEDVPPFHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRG NLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGP IWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEP
RPIGTRYL TRNL

SEQ ID NO:46:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPPFHSSY AHSQSLDRLMNPLIDQYLYYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRG NLAEGSGRNRQAATADVNTQGVLPGMVWQ
DRDVYLQGP IWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSE
PRPIGTRYL TRNL

SEQ ID NO:47:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPPFHSSY AHSQSLDRLMNPLIDQYLYYLSRT

Figure 1 (continued)

NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIG
TRYLTRNL

SEQ ID NO:48:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:49:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG

Figure 1 (continued)

ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVD TNGVYSEPR
PIGTRYLTRNL

SEQ ID NO:50:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQ
DRDVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVD TNGVYSEP
RPIGTRYLTRNL

SEQ ID NO:51:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD

Figure 1 (continued)

EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF
ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:52:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQ SRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGPWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVD TNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:53:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQ SRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD

Figure 1 (continued)

RDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKF
ASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEP
RPIGTRYLTRNL

SEQ ID NO:54:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNARQAATADVNTQGVLPGMVWQ
DRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAK
FASFITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKS VNVDFTVDTNGVYSE
PRPIGTRYLTRNL

SEQ ID NO:55:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNEGSGRNRQAATADVNTQGVLPGMVWQDRD
VYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASF

Figure 1 (continued)

ITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPIG
TRYLTRNL

SEQ ID NO:56:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WG YFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNRQAATADVNTQGVLPGMVWQDR
DVYLQGP IWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFAS
FITQYSTGQVSVEIEWELQKENS KRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPRPI
GTRYLTRNL

SEQ ID NO:57:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WG YFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNLAEGSGRNRQAATADVNTQGVLPGMVWQD
RDVYLQGP IWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKF

Figure 1 (continued)

ASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSINVDFTVDTNGVYSEPR
PIGTRYLTRNL

SEQ ID NO:58:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQRGNAEGSGRNARQAATADVNTQGVLPGMVWQ
DRDVYLQGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAK
FASFITQYSTGQVSVEIEWELQKENSKRWNPEIQYTSNYNKSINVDFTVDTNGVYSEP
RPIGTRYLTRNL

SEQ ID NO:59:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGPFF
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVKTAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLGTTNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFSRPDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSLVPNGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNATADVNTQGVLPGMVWQDRDVYLQGPI
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTPVPANPSTTFSAAKFASFITQYSTG

Figure 1 (continued)

QVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYLTR
NL

SEQ ID NO:60:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
PIWAKIPHTDGHFHP SPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYLT
RNL

SEQ ID NO:61:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHP SPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYS

Figure 1 (continued)

TGQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYL
TRNL

SEQ ID NO:62:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTR
YLTRNL

SEQ ID NO:63:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNAATADVNTQGVLPGMVWQDRDVYLQGPI
WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYSTG

Figure 1 (continued)

QVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLTR
NL

SEQ ID NO:64:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLT
RNL

SEQ ID NO:65:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYS

Figure 1 (continued)

TGQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLT
RNL

SEQ ID NO:66:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNEADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVIT T S T R T W A L P T Y N N H L Y K Q I S S Q S G A S N D N H Y F G Y S T P
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTR
YLTRNL

SEQ ID NO:67:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVIT T S T R T W A L P T Y N N H L Y K Q I S S Q S G A S N D N H Y F G Y S T P
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNAATADVNTQGVLPGMVWQDRDVYLQGP
I WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYSTG

Figure 1 (continued)

QVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYLTR
NL

SEQ ID NO:68:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TMTATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
PIWAKIPHTDGHFHP SPLMGGFGLKHPPPQILIKNTVPANPSTTFSAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYLT
RNL

SEQ ID NO:69:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADADEFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG TMTATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDFNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHP SPLMGGFGLKHPPPQILIKNTVPANPSTTFSAKFASFITQYS

Figure 1 (continued)

TGQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTRYL
TRNL

SEQ ID NO:70:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVITSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSN YNKS VNVDFTVDTNGVYSEPRPIGTR
YLTRNL

SEQ ID NO:71:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVITSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQEGSGRNAATADVNTQGVLPGMVWQDRDVYLQGP
I WAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYSTG

Figure 1 (continued)

QVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLTR
NL

SEQ ID NO:72:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGSGRNATADVNTQGVLPGMVWQDRDVYLQG
PIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYST
GQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLT
RNL

SEQ ID NO:73:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA E FQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLG T N T M A T G S G A P M A D N N E G A D G V G
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYDFDNRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQAEGSGRNATADVNTQGVLPGMVWQDRDVYLQ
GPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASFITQYS

Figure 1 (continued)

TGQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTRYLT
RNL

SEQ ID NO: 74:

AAV2-MIT-REP (ACG start codon for AAV Rep polypeptide instead of an ATG) +
MAADGYLPDWLEDTLSEGIRQWWKLKPGPPPKPAERHKDDSRGLVLPGYKYLGP
NGLDKGEPVNAADAAALEHDKAYDRQLDSGDNPYLKYNHADA EFQERLKEDTSFG
GNLGRAVFQAKKRVLEPLGLVEEPVK TAPGKKRPVEHSPVEPDSSSGTGKAGQQPA
RKRLNFGQTGDADSVDPDQPLGQPPAAPSGLG TNTMATGSGAPMADNNEGADGVG
NSSGNWHCDSTWMGDRVITTSTRTWALPTYNNHLYKQISSQSGASNDNHYFGYSTP
WGYFDENRFHCHFS PRDWQRLINNNWGFRPKRLNFKLFNIQVKEVTQNDGTTIAN
NLTSTVQVFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLTLNNGSQAVGRS
SFYCLEYFPSQMLRTGNNFTFSYTFEDVPFHSSY AHSQSLDRLMNPLIDQYLYLSRT
NTPSGTTTQSRLQFSQAGASDIRDQSRNWLPGPCYRQQRVSKTSADNNNSEYSWTG
ATKYHLNGRDSL VNPGPAMASHKDDEEKFFPQSGVLIFGKQGSEKTNVDIEKVMITD
EEEIRTTNPVATEQYGSVSTNLQLAEGSGRNAATADVNTQGVLPGMVWQDRDVYL
QGPIWAKIPHTDGHFHPSPLMGGFGLKHPPPQILIKNTVPANPSTTFSAAKFASITQ
YSTGQVSVEIEWELQKENS KRWNPEIQYTSN YNKSINVDFTVD TNGVYSEPRPIGTR
YLTRNL

Figure 1 (continued)

AAV2-MIT-REP (ACG start codon for AAV Rep78 and Rep68 polypeptides instead of an ATG)

MIT Mutant Rep78:

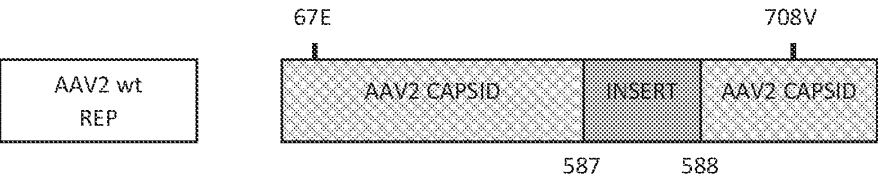
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MEQYLSACLNLTERRKRLVAQHLTHVSQTQEQNKENQNPNSDAPVIRSKTSARYMEL
VGWLVDKGITSEKQWQEDQASYISFNAASNSRSQIKAALDNAGKIMSLTKTAPDYL
VGQQPVEDISSNRIYKILELNGYDPQYAASVFLGWATKKFGKRNTIWLFGPATTGKT
NIAEAIHTVPFYGCVNWTNENFPFNDKMDKVIWWEKGMTAKVVESAKAILGG
SKVRVDQKCKSSAQIDPTPVIVTSNTNMCAVIDGNSTTFEHQQPLQDRMFKFELTRR
LDHDFGKVTQKEVKDFFRWAKDHVVEVEHEFYVKKGGAKKRPAPSDADISEPKRV
RESVAQPSTSDAEASINYADRYQNKCSRHVGMNLMFLPCRQCERMNQNSNICFTHG
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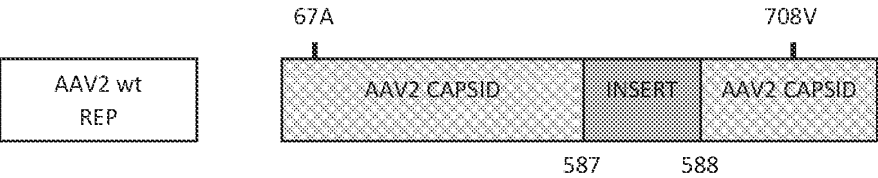
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LQRDFLTEWRRVSKAPEALFFVQFEKGESYFHMHVLVETTGVKSMVLGRFLSQIREK
LIQRIYRGIEPTLPNWFAVTKTRNGAGGGNKKVVDECYIPNYLLPKTQPELQWAWTN
MEQYLSACLNLTERRKRLVAQHLTHVSQTQEQNKENQNPNSDAPVIRSKTSARYMEL
VGWLVDKGITSEKQWQEDQASYISFNAASNSRSQIKAALDNAGKIMSLTKTAPDYL
VGQQPVEDISSNRIYKILELNGYDPQYAASVFLGWATKKFGKRNTIWLFGPATTGKT
NIAEAIHTVPFYGCVNWTNENFPFNDKMDKVIWWEKGMTAKVVESAKAILGG
SKVRVDQKCKSSAQIDPTPVIVTSNTNMCAVIDGNSTTFEHQQPLQDRMFKFELTRR
LDHDFGKVTQKEVKDFFRWAKDHVVEVEHEFYVKKGGAKKRPAPSDADISEPKRV
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Figure 2

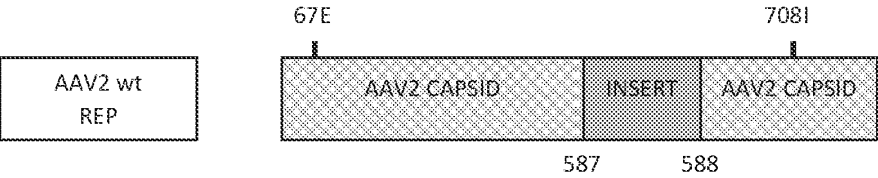
Wild-type 67E and wild-type 708V:



Mutant E67A and wild-type 708V:



Wild-type 67E and mutant V708I:



Mutant E67A and mutant V708I:

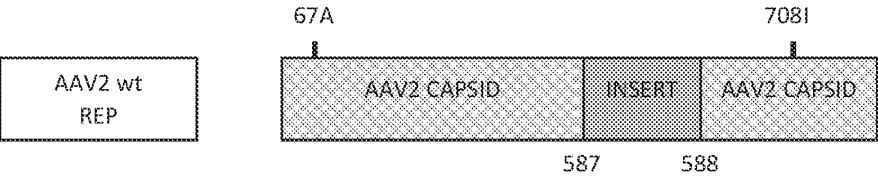
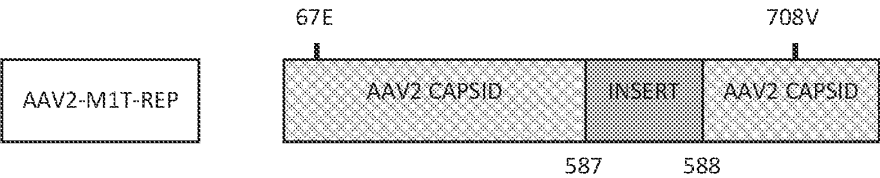
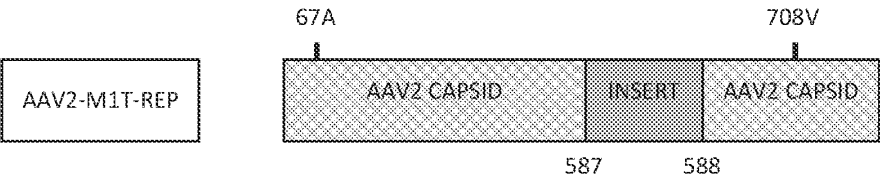


Figure 3

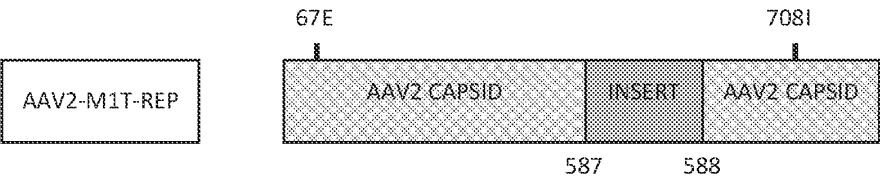
Wild-type 67E and wild-type 708V:



Mutant E67A and wild-type 708V:



Wild-type 67E and mutant V708I:



Mutant E67A and mutant V708I:

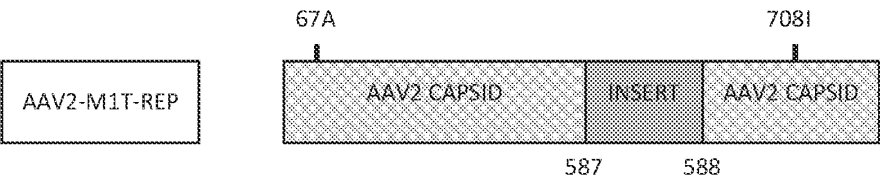
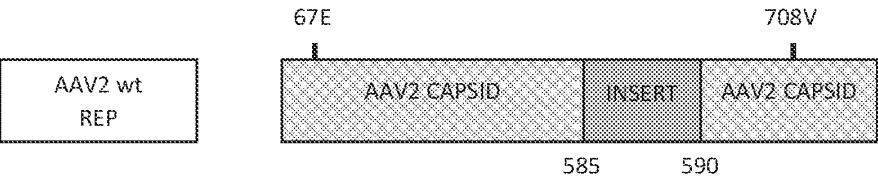
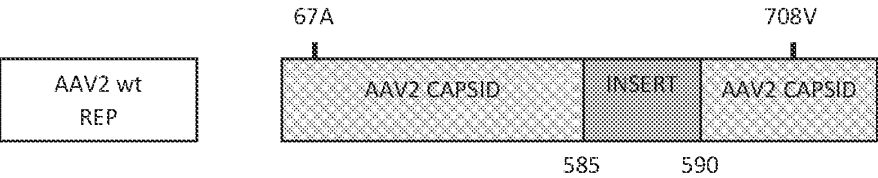


Figure 4

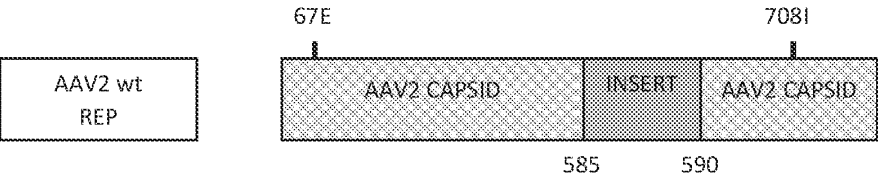
Wild-type 67E and wild-type 708V:



Mutant E67A and wild-type 708V:



Wild-type 67E and mutant V708I:



Mutant E67A and mutant V708I:

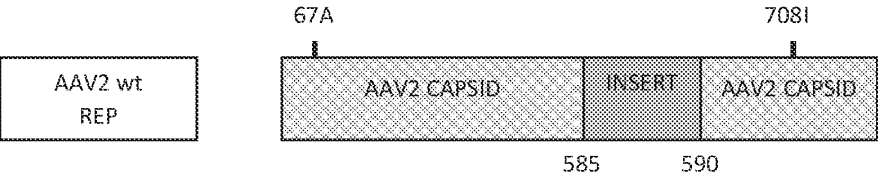
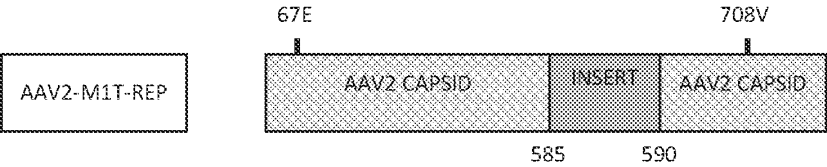
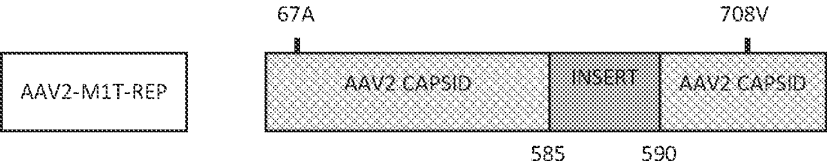


Figure 5

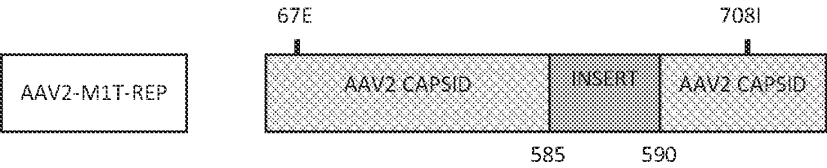
Wild-type 67E and wild-type 708V:



Mutant E67A and wild-type 708V:



Wild-type 67E and mutant V708I:



Mutant E67A and mutant V708I:

