O.D.260 Inc
BETTER TOOLS, BETTER SCIENCE

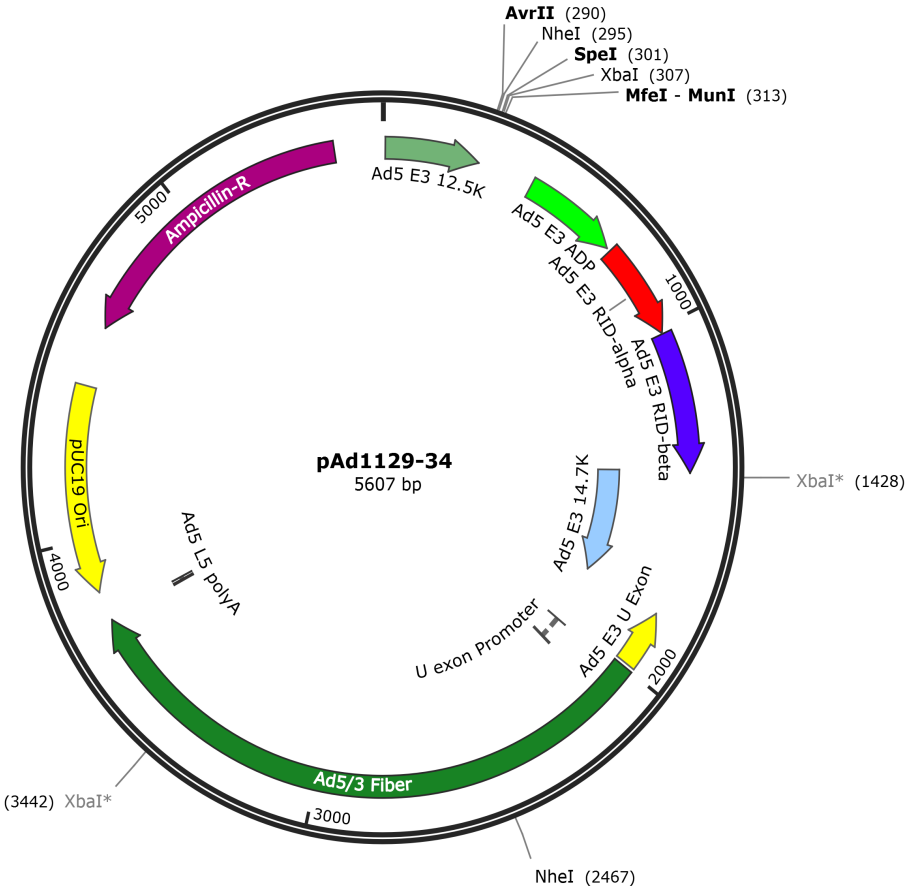
pAd1129-34

pAd1129-27 is a shuttle plasmid designed for constructing adenovirus vectors characterized by a 1.2 kb deletion in the E3 region and a hybrid Ad5/3 fiber.

The E3 deletion spans the 1.2 kb BglII-MfeI DNA fragment that includes the E3 genes encoding the 6.7K protein and the gp19K membrane protein. It was replaced with a short multiple cloning site (AvrII-NheI-SpeI-XbaI-MfeI). The adenovirus “death” protein ADP, RID-a, RID-ß, and14.7K are still present in the vector. The E3 12.5K ORF is truncated. The U exon is intact.

The Ad5/3 hybrid fiber is made of the N-terminal tail and shaft of Ad5 fused to the knob of Ad3. It targets the virus to cells expressing desmoglein 2 (DSG2). DSG2 is a calcium-binding transmembrane glycoprotein that belongs to the cadherin protein family. In epithelial cells, DSG2 is a component of the cell-cell adhesion structure. Its cytoplasmic tail interacts with a series of proteins that are in direct contact with regulators of cell adhesion and intercellular junctions/ cell morphology. It has been shown that DSG2 is overexpressed in a series of epithelial malignancies including gastric cancer, squamous cell carcinomas, melanoma, metastatic prostate cancer, and bladder cancer (Wang et al., 2011, Nature Med 17: 96-104).

pAd1129-34 can be used to construct replication-deficient or oncolytic adenovirus vectors expressing large transgenes (inserted into the E3 region itself or elsewhere), or multiple expression cassettes (for instance two independent expression cassettes, one in the E1 region, and the other in the E3 region). Expression cassettes inserted into the E3 region should contain a promoter and poly(A) signal, but no intron nor splice site. The adenovirus sequences present in pAd1129-34 are flanked by two SfiI sites, which generate non-symmetrical sticky ends suitable for directional cloning with the other AdenoQuick2.0 plasmids (pAd1127, pAd1128, pAd1130, and their derivatives).



Annotations

pAd1129-34.gb (12.2 KB)