AAV-MAX Control Plasmids

Catalog Numbers A47672, A47677, A47678, A47680

Pub. No. MAN0025998 Rev. B.0



WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from thermofisher.com/support.

Product description

The Gibco[™] AAV-MAX Control Plasmids Kit consists of an optimized mix of three plasmids needed to produce adeno-associated virus serotype 2 (AAV2) expressing GFP: a transfer plasmid, a Rep/Cap plasmid, and a helper plasmid. Together, these plasmids supply the AAV replication and structure proteins that are required to produce AAV, with the exception of the adenovirus E1 gene. The E1 gene is supplied by the Viral Production Cells 2.0 (Cat. No. A49784). The kit also comes with a separate tube of each of the three plasmids alone, which enables the user to use them in a standalone manner and change the ratios.

For detailed instructions on using the AAV-MAX Control Plasmids to produce high titer AAV, see the AAV-MAX Helper-Free AAV Production System User Guide (Pub. No. MAN0019619) at thermofisher.com.

Contents and storage

Contents	Cat. No.	Amount	Storage
Gibco [™] AAV-MAX Control Plasmids Kit: • Tube 1: – Gibco [™] AAV-MAX pHelper Vector – Gibco [™] AAV-MAX pAAV-Rep2Cap2 Vector – Gibco [™] AAV-MAX pAAV-CMV-EmGFP Vector • Tube 2: – Gibco [™] AAV-MAX pHelper Vector • Tube 3: – Gibco [™] AAV-MAX pAAV-Rep2Cap2 Vector • Tube 4: – Gibco [™] AAV-MAX pAAV-CMV-EmGFP Vector	A47672	Tube 1 : 1.5 mL at 1 mg/mL Tubes 2–4 : 0.75 mL at 1 mg/mL	-20°C
Gibco [™] AAV-MAX pHelper Vector	A47677	0.75 mL at 1 mg/mL	-20°C
Gibco™ AAV-MAX pAAV-Rep2Cap2 Vector	A47678	0.75 mL at 1 mg/mL	-20°C
Gibco [™] AAV-MAX pAAV-CMV-EmGFP Vector	A47680	0.75 mL at 1 mg/mL	-20°C



About the AAV-MAX pHelper vector

The following table summarizes the features of the AAV-MAX pHelper vector. E2A, E4 and VA are the adenoviral genes required for proper AAV packaging. The other required adenovirus gene E1 is provided by the AAV packaging cells, Viral Production Cells 2.0, that are a part of the AAV-MAX system.

Bases	Description	Мар
1–5336	Adenoviral E2A	
5337-8536	Adenoviral E4	bla promoter f1 origin
8537–9279 (C) ^[1]	Adenoviral VA	
9363–10036 (C) ^[1]	pUC origin of replication (ori): Permits high-copy replication and maintenance in E. coli.	
10181–10990 (C) ^[1]	Kanamycin resistance gene: Allows selection of the plasmid in E. coli.	pHelper
10991–11089 (C) ^[1]	(bla) promoter	
11121–11576 (C) ^[1]	f1 origin: a phage-derived ori that allows for the replication and packaging of ssDNA into phage particles	

^[1] C=Complementary strand

About the AAV-MAX pAAV-Rep2Cap2 vector

The following table summarizes the features of the AAV-MAX pAAV-Rep2Cap2 vector. This vector provides genes encoding the AAV2 Rep and structural proteins.

Bases	Description	Мар
137–229	P5 promoter for Rep2Cap2 gene expression	nE normator
256–2121	AAV2 Rep gene: encodes four overlapping AAV2 rep proteins	po promoter
2138–4345	AAV2 Cap gene: The cap region encodes three AAV2 structural proteins, VP1, VP2, and VP3	
4842–5297 (C) ^[1]	f1 origin: a phage-derived ori that allows for the replication and packaging of ssDNA into phage particles	nAAV-Ren2Can2
5324–5428	(bla) promoter	7413bp
5324–5428	Kanamycin resistance gene: Allows selection of the plasmid in E. coli.	bia promoter
6409–6997	pUC origin of replication (ori): Permits high-copy replication and maintenance in <i>E. coli</i> .	Cor

^[1] C=Complementary strand

About the AAV-MAX pAAV-CMV-EmGFP vector

The following table summarizes the features of the AAV-MAX pAAV-CMV-EmGFP vector. This vector is an AAV expression vector including the emGFP gene as a gene of interest control. Co-transfect it along with AAV packaging vectors to produce a recombinant AAV control.

Bases	Description	Мар
1–112	Left ITR: AAV inverted terminal repeats	
158–820	Human cytomegalovirus (CMV) promoter: Permits high-level expression of EmGFP.	Left ITR
8328–1320	Human β -globin Intron: Enhances expression of EmGFP (GOI)	CMV promoter
1330–2049	EmGFP gene: GOI control	Human Beta-globin intron
2050–2528	Poly A signal	1 1 1
2604–2748	Right ITR: AAV inverted terminal repeats	PAAV-CMV-EmGFP 5294bp
2823–3278	f1 origin: a phage-derived ori that allows for the replication and packaging of ssDNA into phage particles	
3566–3664	(bla) promoter	bla promoter
3665–4474	Kanamycin resistance gene: Allows selection of the plasmid in E. coli.	 Right ITR
4619–5292	Origin of replication (ori): Permits low-copy replication and maintenance in E. coli.	

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

Revision history: Pub. No. MAN0025998A.0

Revision	Date	Description	
	5 January 2023	Three sentences pointing to the website were deleted from the user guide.	
	2 December 2021	New document for AAV-MAX Control Plasmids.	

The information in this guide is subject to change without notice.

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