

Mammalian Expression Overview

pTriEx™ Multisystem Expression Vectors

Most mammalian proteins undergo various types of post-translational processing and modifications. In order to express active recombinant mammalian proteins that are properly post-translationally processed and modified, mammalian cell lines are the best choice as expression hosts. Furthermore, mammalian cells are well suited for various types of recombinant protein studies such as functional activity assays and physiological effect on cellular functions.

Novagen's pTriEx™ vectors feature strong transcription and translation signals for optimal protein expression in mammalian cells. In addition, these unique vectors incorporate the appropriate signals for high-level expression of proteins in bacteria and insect cells. Thus a single construct can be used for analysis of recombinant proteins in the three most widely used expression systems, saving the need to sub clone and manage multiple constructs in single-system vectors. All of the pTriEx vectors enable high-level transient expression; the new bicistronic hygro and neo series also allow the convenient and reliable establishment of stable cell lines producing the protein of interest.

GeneJuice™ Transfection Reagent

Novagen's new GeneJuice™ Transfection Reagent is based on a proprietary formulation of polyamines. This transfection reagent is a superior alternative to a wide variety of other techniques including calcium phosphate coprecipitation (1–3), electroporation (4, 5), microinjection (6), biolistic particle delivery (7), and complex formation with DEAE-dextran (8, 9). GeneJuice Transfection Reagent has been demonstrated to provide excellent performance in both stable and transient transfection of eukaryotic cells.

Advantages:

- GeneJuice:DNA mixtures can be added directly to eukaryotic cells in serum-containing culture medium
- GeneJuice does not need to be removed following transfection
- GeneJuice exhibits high transfection efficiencies in many commonly used mammalian cell lines

GeneJuice Transfection Reagent is ideal for high-throughput (HT) transfection in a multi-well plate format for studies such as cDNA library screening and transient protein expression.

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pTriEx Vectors

Vector	Promoters	Fusion Tags		Protease Cleavage Sites	Special Features/Applications
		N-terminal	C-terminal		
pTriEx-1.1	T7lac, p10, CAG	none	HSV-Tag® His-Tag®	none	Optional C-terminal tags for detection and purification
pTriEx-2	T7lac, p10, CAG	His-Tag, S-Tag™	HSV-Tag His-Tag	thrombin enterokinase	N-terminal tags for detection and purification Homogeneous FRET assay
pTriEx-3	T7lac, p10, CMV	none	HSV-Tag His-Tag	none	Optional C-terminal tags for detection and purification
pTriEx-4	T7lac, p10, CMV	His-Tag, S-Tag	HSV-Tag His-Tag	thrombin enterokinase	N-terminal tags for detection and purification Homogeneous FRET assay Available as LIC vector
pTriEx Vectors Useful for Stable Expression					
pTriEx-1.1 hygro, pTriEx-1.1 neo	T7lac, p10, CAG	none	HSV-Tag His-Tag	none	Optional C-terminal tags for detection and purification
pTriEx-2 hygro, pTriEx-2 neo	T7lac, p10, CAG	His-Tag, S-Tag	HSV-Tag His-Tag	thrombin enterokinase	N-terminal tags for detection and purification Homogeneous FRET assay
pTriEx-3 hygro, pTriEx-3 neo	T7lac, p10, CMV	none	HSV-Tag His-Tag	none	Optional C-terminal tags for detection and purification
pTriEx-4 hygro, pTriEx-4 neo	T7lac, p10, CMV	His-Tag, S-Tag	HSV-Tag His-Tag	thrombin enterokinase	N-terminal tags for detection and purification Homogeneous FRET assay

Common features:

Rabbit β-globin terminator
Ampicillin resistance marker
High copy number plasmid origin of replication
f1 origin of replication
polh locus of baculovirus integration
Compatible with BacVector-1000, -2000, -3000
Triple Cut Virus DNA