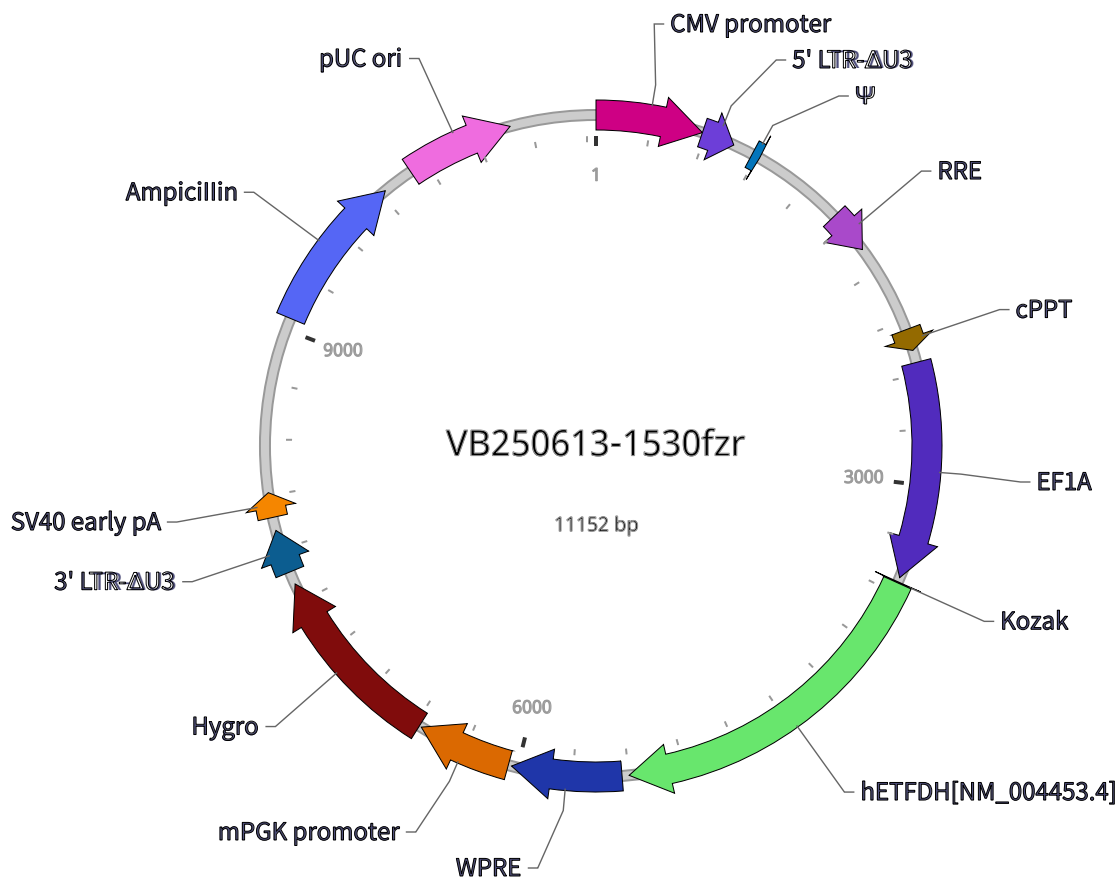


Vector Summary

Vector ID	VB250613-1530fzr
Vector Name	pLV[Exp]-Hygro-EF1A>hETFDH[NM_004453.4]
Vector Size	11152 bp
Viral Genome Size	7325 bp
Vector Type	Mammalian Gene Expression Lentiviral Vector
Inserted Promoter	EF1A
Inserted ORF	hETFDH[NM_004453.4]
Inserted Marker	Hygro
Plasmid Copy Number	High
Antibiotic Resistance	Ampicillin
Cloning Host	VB UltraStable (or alternative strain)

Vector Map



Vector Components

Name	Position	Size (bp)	Type	Description	Application notes
CMV promoter	■ 1-581	581	Promoter	Human cytomegalovirus immediate early enhancer/promoter	Strong promoter; may have variable strength in some cell types.
5' LTR-ΔU3	■ 582-762	181	LTR	Truncated HIV-1 5' long terminal repeat	Allows transcription of viral RNA and its packaging into virus.
Ψ	■ 873-917	45	Miscellaneous	HIV-1 packaging signal	Allows packaging of viral RNA into virus.
RRE	■ 1427-1660	234	Miscellaneous	HIV-1 Rev response element	Rev protein binding site that allows Rev-dependent nuclear export of viral RNA during viral packaging.
cPPT	■ 2152-2268	117	Miscellaneous	Central polypurine tract	Facilitates the nuclear import of HIV-1 cDNA through a central DNA flap.
EF1A	■ 2336-3514	1179	Promoter	Human eukaryotic translation elongation factor 1 α1 promoter	Strong promoter.
Kozak	■ 3539-3544	6	Miscellaneous	Kozak translation initiation sequence	Facilitates translation initiation of ATG start codon downstream of the Kozak sequence.
hETFDH[NM_004453.4]	■ 3545-5398	1854	CDS	NM_004453	<i>None</i>
WPRE	■ 5437-6034	598	Miscellaneous	Woodchuck hepatitis virus posttranscriptional regulatory element	Enhances virus stability in packaging cells, leading to higher titer of packaged virus; enhances higher expression of transgenes.
mPGK promoter	■ 6053-6563	511	Promoter	Mouse phosphoglycerate kinase 1 promoter	Medium-strength promoter.
Hygro	■ 6576-7601	1026	CDS	Hygromycin resistance gene	Allows cells to be resistant to hygromycin B.

Name	Position	Size (bp)	Type	Description	Application notes
3' LTR-ΔU3	■ 7672-7906	235	LTR	Truncated HIV-1 3' long terminal repeat	Allows packaging of viral RNA into virus; self-inactivates the 5' LTR by a copying mechanism during viral genome integration; contains polyadenylation signal for transcription termination.
SV40 early pA	■ 7979-8113	135	Regulatory Elements	Simian virus 40 early polyadenylation signal	Allows transcription termination and polyadenylation of mRNA transcribed by Pol II RNA polymerase.
Ampicillin	■ 9067-9927	861	CDS	Ampicillin resistance gene	Allows E. coli to be resistant to ampicillin.
pUC ori	■ 10098-10686	589	Rep_origin	pUC origin of replication	Facilitates plasmid replication in E. coli; regulates high-copy plasmid number (500-700).

Note: Components added by user are listed in **bold red** text.

Vector Sequence

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Validation by Restriction Enzyme Digestion

Restriction Enzymes	Cutting Sites	DNA Fragments (bp)
XhoI	3302	11152
SmaI	3696	11152
XmaI	3694	11152
ApaLI	4219, 5651, 6857, 7159, 9183, 10429	1432, 1206, 302, 2024, 1246, 4942
AflII	646, 2716, 5159, 7790	2070, 2443, 2631, 4008
ApaLI+XhoI	3302, 4219, 5651, 6857, 7159, 9183, 10429	917, 1432, 1206, 302, 2024, 1246, 4025
ApaLI+XmaI	3694, 4219, 5651, 6857, 7159, 9183, 10429	525, 1432, 1206, 302, 2024, 1246, 4417
ApaLI+SmaI	3696, 4219, 5651, 6857, 7159, 9183, 10429	523, 1432, 1206, 302, 2024, 1246, 4419

Restriction Enzymes	Cutting Sites	DNA Fragments (bp)
ApaLI+AflII	646, 2716, 4219, 5159, 5651, 6857, 7159, 7790, 9183, 10429	2070, 1503, 940, 492, 1206, 302, 631, 1393, 1246, 1369