

DECIPHER pRSI9-U6-sh-UbiC-TagRFP-2A-Puro Vector Features

Feature	Location	Function	Source
Rous Sarcoma Virus (RSV) enhancer/promoter	7 - 233	Allows Tat-independent production of viral mRNA (Dull et al., 1998).	Rous sarcoma virus
HIV-1 truncated 5' LTR	233 - 413	Permits viral packaging and reverse transcription of the viral mRNA (Luciw, 1996).	HIV-1
HIV-1 psi (ψ) packaging signal	569 - 922	Allows viral packaging (Luciw, 1996).	HIV-1
HIV-1 Rev response element (RRE)	1072 - 1370	Permits Rev-dependent nuclear export of unspliced viral mRNA (Kjems et al., 1991; Malim et al., 1989).	HIV-1
U6	1803 - 2064	Human U6 promoter drives RNA Polymerase III transcription for generation of shRNA transcripts.	Human
cPPT	2194 - 2311	Central polypurine tract, cPPT, improves transduction efficiency by facilitating nuclear import of the vector's preintegration complex in the transduced cells.	HIV-1
UbiC promoter	2360 - 2758	Ubiquitin C promoter drives expression of TagRFP and PuroR	Human
TagRFP	2772 - 3482	TagRFP fluorescent protein (Evrogen) serves as an indicator of successful transduction	sea anemone <i>Entacmaea quadricolor</i>
2A (T2A)	3489 - 3542	Thosea asigna virus 2A translational cleavage site containing 18 amino acid residues. Cleavage occurs via a co-translational ribosome skipping mechanism between the C-terminal Glycin and Prolin residues, leaving 17 residues attached to the end of copGFP and 1 residue to the start of the puromycin resistance marker	Thosea asigna virus
PuroR	3549 - 4145	Puromycin-resistant marker for selection of the transduced cells	<i>Streptomyces alboniger</i>
Δ U3/HIV-1 truncated 3' LTR	4176 - 4489	3' Self-inactivating long terminal repeat. Allows viral packaging but self-inactivates the 5' LTR for biosafety purposes (Dull et al., 1998). The element also contains a polyadenylation signal for transcription termination and polyadenylation of mRNA in transduced cells. Required for viral reverse transcription; self-inactivating 3' LTR with deletion in U3 region prevents formation of replication-competent viral particles after integration into genomic DNA	HIV-1
SV40 polyadenylation signal	4546 - 4677	Allows transcription termination and polyadenylation of mRNA.	SV40
SV40 Ori	4707 - 4853	Allows for episomal replication of plasmid in eukaryotic cells	SV40
AmpR	6036 - 6896 (c)	Ampicillin resistance gene (β -lactamase) for selection of plasmid in bacterial cells	bacterium <i>Salmonella paratyphi</i>
pUC ori	5277 (cp)	pUC bacterial origin of replication.	pUC

* (c): element on complementary strand