

**Table 2**

	Number of Colonies	Background Reduction (%)
<b>Kpn I-cut</b> pUC 19 vector Buffer L (USB) 3' Overhang		
Control	4796	
2 $\mu$ l SuperSAP	44	99%
<b>Hind III-cut</b> pUC 19 vector Buffer M (USB) 5' Overhang		
Control	1783	
1 $\mu$ l SuperSAP	13	99.3%
<b>EcoR I-cut</b> pUC 19 vector Buffer H (USB) 5' Overhang		
Control	3269	
1 $\mu$ l SuperSAP	84	97.4%
<b>BamH I-cut</b> pUC 19 vector Buffer K (USB) 5' Overhang		
Control	1753	
1 $\mu$ l SuperSAP	0	100%
<b>Sma I-cut</b> pUC 19 vector Buffer A (USB) Blunt End		
Control	1091	
1 $\mu$ l SuperSAP	0	100%

**Simultaneous dephosphorylation with SuperSAP™ and restriction enzyme digestion is convenient and effective to prevent recirculation of vector.** 1  $\mu$ g of pUC19 was digested as indicated with 1  $\mu$ l of SuperSAP (5' overhang or blunt), or 2  $\mu$ l of SuperSAP (3' overhang) in the appropriate restriction enzyme buffer and was incubated for 30 min at 37°C followed by heat-inactivation at 65°C for 15 min. 50 ng was directly self-ligated using the USB Ligase-IT Rapid Ligation Kit (PN 78400), 2.5 ng was transformed into *E. coli* DH5- $\alpha$  and 0.5 ng was plated on selective medium.