

Recovery of DNA fragment by different elution volumes

– Validation Data for HiYield™ Gel/PCR DNA Fragments Extraction Kit (YDF kit)–

Experimental Design

500bp PCR product was prepared for the test adjusting as DNA solution of 36 ng/μl. Seven aliquots of 50 μl solution (1.8μg DNA) were processed with HiYield™ Gel/PCR DNA Fragments Extraction Kit following PCR clean up protocol. Different volumes of elution buffer from 10μl to 100μl were applied to different columns. 10% of volumes of eluted DNA were loaded onto an agarose gel after processing. DNA quantification for eluted DNA was conducted using spectrophotometer measuring A260.

Result

A. Electrophoresis image of recovered DNA



Lane C: Unprocessed DNA solution, Lane1-7: Purified DNA solution with elution buffer of which volume is, lane1: 100μl, lane 2: 75μl, lane 3: 50μl, lane 4: 40μl, lane 5: 30μl, lane 6: 20μl, lane 7: 10μl

B. Percent Recovery

Elution Volume (μl)	Recovered DNA amount (μg)	Percent Recovery
10	0.96	53%
20	1.55	86%
30	1.65	92%
40	1.71	95%
50	1.79	99%
75	1.76	98%
100	1.76	98%
Unprocessed	1.80	-

Conclusion

DNA recovery was almost 100% when elution buffer is more than 40μl. On the other hand, DNA loss was about half when elution buffer is 10μl suggesting DNA remains in a column filter. 20-50μl of volume is recommended for elution from a column.