

Simultaneous Delivery of Different Plasmid DNAs to the Same Cells Using the HVJ-E Vector (*GenomONE™ - Neo EX*)

Application for High-Throughput Screening of Functional Genes

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URL: <http://www.iskweb.co.jp/hvj-e/>

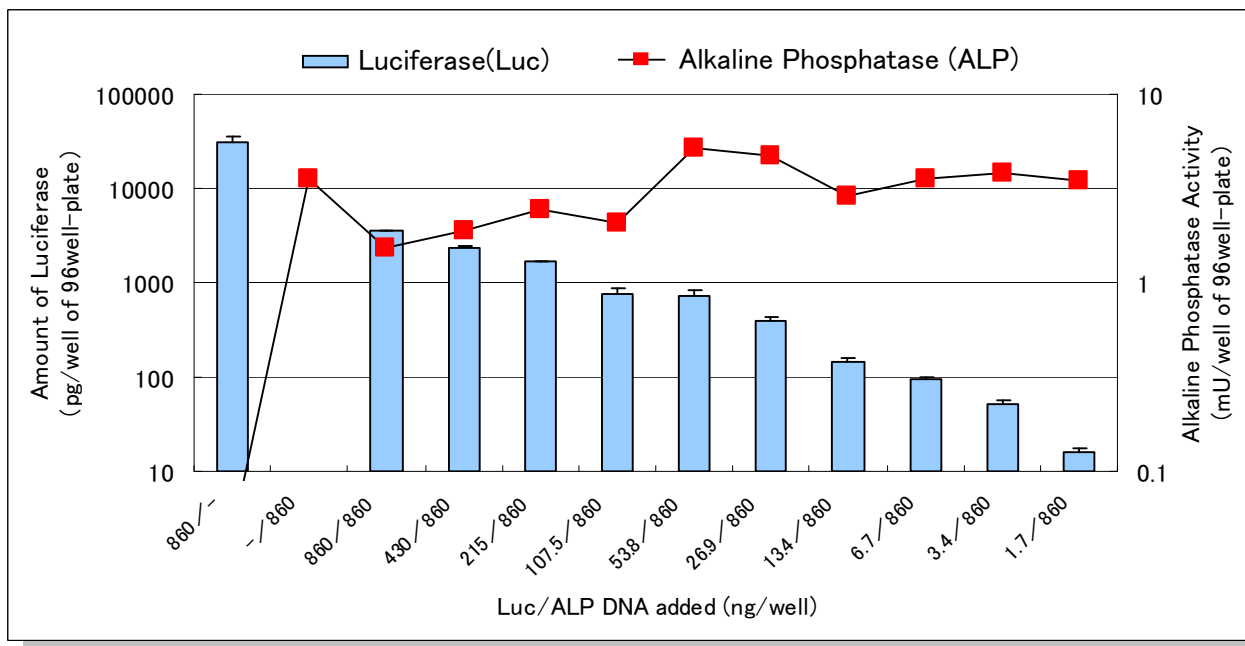
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Simultaneous Expression of Two Different Plasmids

Quantitative and simultaneous expression both the luciferase gene (pGL3) and the alkaline phosphatase gene (pSEAP2) in BHK-21 cells was achieved, in which interference by either gene was not apparent.

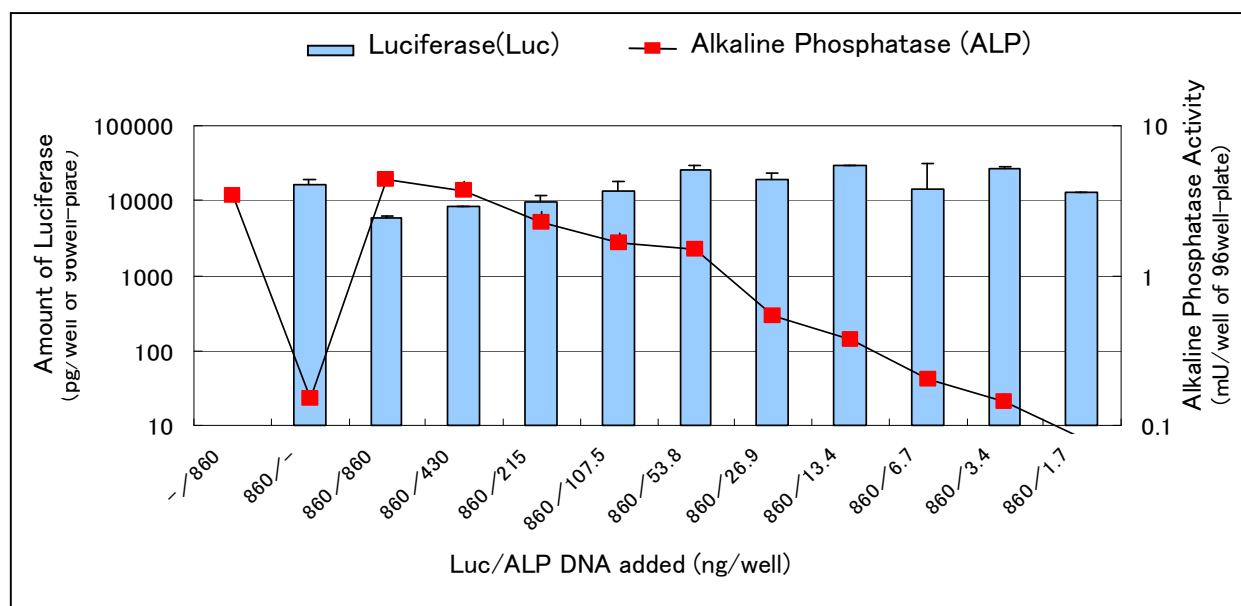
(1) Amount of pGL3 (luciferase gene) plasmid was varied

Serial two-fold dilution samples of pGL3 plasmid (860~1.7 ng/well) were mixed with equal amounts of pSEAP2 plasmid (860 ng/well). After incorporation into HVJ-E, they were introduced into BHK-21 cells.

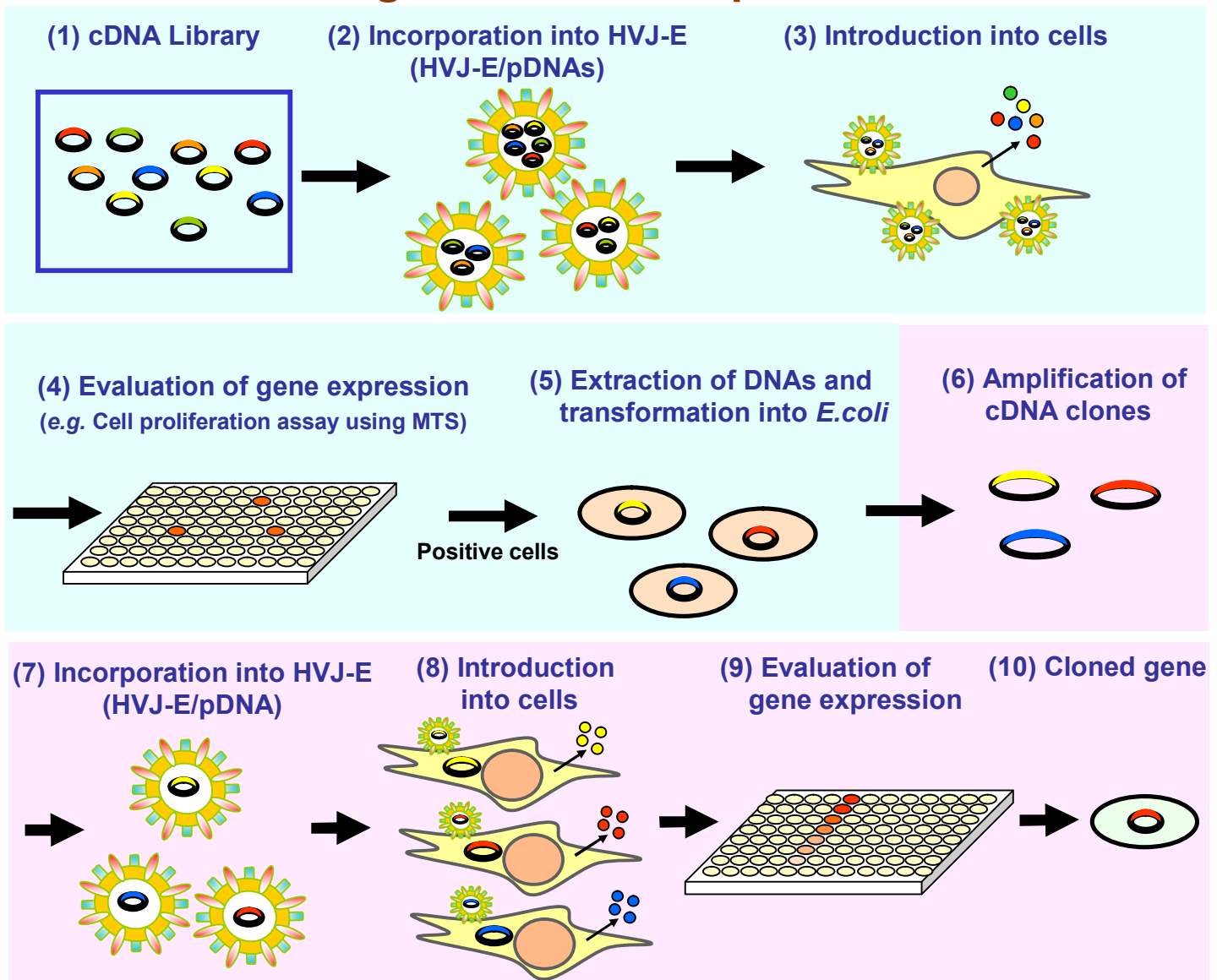


(2) Amount of pSEAP2 (alkaline phosphatase gene) plasmid was varied

Similar results were obtained when the amount of pSEAP2 plasmid was varied instead (860~1.7 ng/well).



High-Throughput Screening (HTS) of Functional Genes Using an HVJ-Envelope Vector



Advantages of an HTS system based on the HVJ-E vector

- Rapid preparation of the vector containing the DNA library
- Effective membrane fusion-mediated introduction of the DNAs into various cells
- Easy cloning of candidate genes by transformation of *E. coli*.
- Minimization of the time needed to screen for functional genes

[Related Articles]

- (1) Nishikawa T. *et al.*, Development of high-throughput functional screening of therapeutic genes, using a hemagglutinating virus of Japan envelope vector. *Hum. Gene Ther.*, 17(4), 470-475 (2006).
- (2) Takami Y. *et al.*, Ubiquitin carboxy-terminal hydrolase L1, a novel deubiquitinating enzyme in the vasculature, attenuates NF- κ B activation. *Arterioscler. Thromb. Vasc. Biol.*, 27, 2184-2190 (2007).