

## Adeno-associated Virus Complexation with Chitosan-catechol for Patterned Gene Expression

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Gene delivery is a powerful tool for regulation of cell signaling (differentiation, proliferation, and migration). In the field of regenerative medicine, the spatially patterned gene expression system is required to mimic natural tissue-specific patterns. Our study contributed to progress in microscale patterning researches which can control cell state by the controlled release of extracellular signals. Conventional microscale biopatterning techniques such as use of stamp, photolithography and polymeric aqueous two-phase systems are complicated processes. In our previous work, it was a successfully novel patterning method that called 'gene-vector drawing' technique. With this technique, the patterning of gene-vectors can easily be attained compared with other conventional methods. The adeno-associated virus (AAV) that is complexed with chitosan-catechol (CHI-C) has sticky property in order to spatio-controlled gene delivery due to the adhesive functional group of the catecholamine in CHI-C.