Health Care Current Reviews 2018, Volume 6
DOI: 10.4172/2375-4273-C7-057

Establishment of *Bacillus thuringiensis* based exogenous double-stranded RNA production platform

Min Gu Park
Seoul National University, Republic of Korea

RNA interference (RNAi) has been considered as an alternative strategy to control agricultural pests whereby double-stranded RNA (dsRNA) triggers a potent and specific inhibition of its homologous mRNA. Since small dsRNAs are required for various RNAi applications, there is a need for cost-effective methods for producing large quantities of high-quality dsRNA. To produce exogenous dsRNA through simple and cost-effective methods, *Bacillus thuringiensis* (Bt) based dsRNA production platform was established. For this, Bt shuttle vector, pHT1K-vp1, which transcribes sense and the anti-sense VP1 gene of Sacbrood virus (SBV) under the control of sporulation-dependent cyt1Aa promoter with STAB-SD sequence was constructed and transformed into Bt 4Q7 strain. Transcription of the VP1 gene was analyzed using qPCR and Northern blot analysis. In addition, the dsRNA against VP1 gene produced from the Bt successfully suppressed the replication of SBV. These results suggested that the Bt potentially exploited as a new platform for dsRNA production.

redmango42@gmail.com