

## **An innovative monolithic column preparation for the isolation of 25 kilo base pairs DNA**

### **Abstract**

The use of large DNAs in preparing multivalent vaccines that will eventually give protective immunity against multiple pathogenic microbes is becoming a major debate nowadays. One of the important issues in ensuring the successful implementation of the new vaccine technology is the development of a chromatographic technique that can handle larger DNAs. This paper reports the development of a novel conical monolithic column format with pore and surface characteristics engineered for the isolation of 25 kbp DNA in a single step fashion. An effective method of eliminating wall channelling, a defect of most conventional monolithic chromatography systems which has caused significant loss of product, was applied to maximise DNA recovery. This method was based on a systematic reduction of wall channel size based on a predetermined correlation between column's back pressure and wall channel size of a particular monolith pore size.