

## CALV Services

The TLR4 and TLR0 conjugatable kits are designed to conjugate up to 0.1  $\mu$ mole of antigen per 100  $\mu$ L dose, which contains 15  $\mu$ g of MPL per dose (for TLR4 kits). The antigens are required to have sulfhydryl group(s).

If your antigen of interest does not contain any available sulfhydryls, or if you prefer to have concentrated doses (

*e.g.*,

for intranasal administration), etc., our staff scientists are available to help you with your specific design.

Custom services include:

- antigen modification
- conjugation
- alternative adjuvant(s)
- alternative formulations (including varying liposome/adjuvant/antigen concentrations)

## Protein Expression and Purification

We are equipped to perform small (1 to 4 L) to large (up to 25 L) scale *E. coli* protein expressions.

al-free media is used to avoid unwanted contamination for downstream biopharmaceuticals production.

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Protein expression yield is generally ~100mg per liter or more.

We are especially experienced in the purification of hydrophobic proteins.

Purification methods include Immobilized-metal affinity chromatography (

*e.g.*

, His-tag), ion exchange chromatography, size exclusion chromatography and high performance liquid chromatography.

Our methods are developed to minimize endotoxin, for compatibility with downstream

*in vitro*

assays.

### **Analytical Services**

Our facilities are equipped with three analytical HPLC systems with PDA detectors, which are routinely used for separation and analysis of lipids, proteins and peptides, as well as other bio-molecules. With our extensive experience in reverse-phase separation and analysis of lipophilic bio-molecules, we offer to assist with development and establishment of analytical HPLC methods and analytical services.

### **Protein Preservation**

#### **Lyophilization and freeze drying**

We offer traditional protein preservation methods, such as lyophilization and freeze drying.

For information or consultation regarding any of our services please contact us at [askus@molecularexpress.com](mailto:askus@molecularexpress.com)