

## Xeno-free and Animal-derived Product Free Declaration

Proteintech's recombinant protein production system is exclusively dedicated to manufacturing of **HumanKine®** growth factors and cytokines. The HumanKine production facility operates animal-component free laboratories in which cell culture, purification, finishing, and all steps in the production process use dedicated xeno-free and animal-derived product free reagents, equipment, and storage containers. We do not engage any expression system other than our proprietary HEK 293 system. These cells are adapted to grow in serum free, chemically defined media.

Proteintech's xeno-free and animal-derived product free protein production steps and process controls include the following:

### Procedures and Processes:

1. Every manufacturing step is performed using Work Instructions or Standard Operating Procedures to ensure consistency and accuracy.

### Molecular Biology:

1. DNA is transformed into competent bacterial cells which are developed using animal-free media.
2. Plasmid DNA is extracted in endotoxin-free water using a certified extraction kit.
3. Extracted plasmid DNA is transfected into certified HEK-derived cell lines.

### Cell Culture:

1. Cell culture processes follow approved documentation.
2. Raw materials and labware are xeno-free and animal-derived product free.
3. All raw materials are identifiable through batch records.
4. All cell lines are grown in xeno-free and animal-derived product free, chemically defined media.
5. Cell culture containers are xeno-free and animal-derived product free.
6. Equipment cleaning performed using released processes.

### Purification:

1. Purification processes follow released documentation.
2. Established animal-free resins and columns are used.
3. All labware that comes in contact with the product is xeno-free and animal-derived product free.
4. Bulk purified proteins are filtered using confirmed xeno-free and animal-derived product free filters.
5. Purified proteins are packaged and stored in xeno-free and animal-derived product free packages in an appropriate cold storage site.

### Filling/Labeling:

1. Line clearance procedures ensure all areas are cleared of materials from the previous operation before packaging starts.
2. Lyophilization process is free from animal-derived components/products.

### Documentation:

1. Standard product Certificate of Analysis includes a xeno-free and animal-derived product free statement.
2. Certificates of Origin are available upon request.