

# Recombinant Human Cytokeratin 19 (CK19)

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> PRO-350
----------------------------	---------------------------------

### ➤ **Background:**

Keratins are a class of fibrous proteins or scleroproteins important both as structural proteins and as keys to the study of protein conformation. The family represents the principal constituent of epidermis, hair, nails, horny tissues, and the organic matrix of tooth enamel. Two major conformational groups have been characterized, alpha-keratin, whose peptide backbone forms an alpha-helix, and beta-keratin, whose backbone forms a zigzag or pleated sheet structure.

Cytokeratin 19 is a marker of simple epithelia. Cytokeratin 19 has been found in mesothelial and mesothelioma cells, and in ovarian cysts, cystadenomas, and ovarian carcinomas. It has been shown to be present in the basal layer of non-keratinizing stratified squamous epithelia such as the oral cavity and the ectocervix. Cytokeratin 19 has also been found in adenocarcinomas of the lung and in tumor cells of pulmonary metastases. It has been reported that cytokeratin 19 can be found in the ductal cells of normal pancreas and in pancreas cancers. It was found that ductal cells of normal pancreas express a number of cytokeratins including cytokeratin 19, whereas acinar cells of normal pancreas also express numerous cytokeratins but not cytokeratin 19. Thus it is determined that pancreas cancers consistently express certain cytokeratins including cytokeratin 19, as do normal ductal cells, which indicates that pancreas cancers may originate from normal ductal cells.

### ➤ **Description :**

Recombinant Human Cytokeratin 19 produced in E.Coli is a single, non-glycosylated polypeptide chain having a molecular mass of 44,098 Dalton. Recombinant Human Cytokeratin 19 is purified by proprietary chromatographic techniques.

### ➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

### ➤ **Physical Appearance:**

Cytokeratin 19, at a concentration of 1mg/ml, was lyophilized from a sterile solution containing 30mM Tris-HCL pH-8, 9.5M urea, 2mM EDTA and 10mM methylammonium chloride.

### ➤ **Solubility:**

It is recommended to reconstitute the lyophilized CK-19 in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Recombinant CK19 although stable at 4 C for 30 days, should be stored desiccated below -20 C for periods greater than 30 days.

**Please avoid freeze-thaw cycles.**

➤ **Purity:**

Greater than 95.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Keratin 19.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.

2. Analysis by RP-HPLC, using a calibrated solution of keratin 19 as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.