



## RayBiotech, Inc.

3607 Parkway Lane suite 200  
Norcross, GA 30092  
Tel: 770-729-2992, 1-888-494-8555  
Fax: 770-206-2393  
Website: [www.raybiotech.com](http://www.raybiotech.com)  
Email: [info@raybiotech.com](mailto:info@raybiotech.com)

---

# Certificate of Analysis and Data Sheet

## Recombinant Human Carcinoembryonic Antigen

**Catalog No.**  
228-10213

**Source**  
*Baculovirus Insect Cells.*

### **Synonyms**

Carcinoembryonic Antigen, CEA, oncofetal antigen.

### **Introduction**

Carcinoembryonic antigen (CEA) is a glycoprotein present in fetal digestive-tract tissues; it's involved in cell adhesion. The production of CEA stops before birth. CEA is called tumor marker since its elevated levels are found in the serum from individuals with colorectal, gastric, pancreatic, lung and breast carcinomas and in heavy smokers.

There are also benign conditions that elevate CEA levels such as smoking, infection, inflammatory bowel disease, pancreatitis, cirrhosis of the liver, and some benign tumors (in the equivalent organs which have cancers with elevated CEA). Typically, higher levels of CEA are found in men, smokers, and older individuals.

The presence of CEA assists in screening, in evaluating recurrent or disseminated disease, and in determining the success of surgical removal of malignant tumors.

CEA levels can be used as indicators of treatment success. The normal values range from 0.0 to 2.5 ng/ml of serum (from blood), in non-smokers, a greater amount than that may be suggestive of cancer. Levels above 20 ng/ml before treatment are associated with cancer which has already metastasized.

Benign conditions do not usually cause a CEA increase over 10 ng/ml.

The high levels of CEA should return to normal after successful therapy, however if during follow up there's an elevation in CEA levels it indicates a recurrence of tumor.

Carcinoembryonic antigen family belongs to the immunoglobulin superfamily; it consists of 29 genes, 18 of which are normally expressed.

### **Description**

CEA Human Recombinant is glycosylated with N-linked sugars and produced using baculovirus vectors in insect cells. CEA is a well-known tumor marker corresponding to the full length human CEA which is approximately 120,000 dalton.

### **Physical Appearance**

Sterile filtered colorless solution.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



## RayBiotech, Inc.

3607 Parkway Lane suite 200  
Norcross, GA 30092  
Tel: 770-729-2992, 1-888-494-8555  
Fax: 770-206-2393  
Website: [www.raybiotech.com](http://www.raybiotech.com)  
Email: [info@raybiotech.com](mailto:info@raybiotech.com)

---

### ***Formulation***

The sterile protein solution contains 10mM NaH<sub>2</sub>PO<sub>4</sub>, pH 7 and 150mM NaCl.

### ***Stability***

CEA although stable at room temperature 4°C for 3 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please prevent freeze-thaw cycles.**

### ***Purity***

Greater than 90.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**