



# PicoKine™ ELISA

**Catalog number: EK7031**

For the quantitation of **Human CEACAM5** concentrations in  
Serum and Plasma

This package insert must be read in its entirety before using this  
product. For research use only. Not for use in diagnostic procedures.

## Human Carcinoembryonic Antigen (CEA) OneStep ELISA Kit

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### Introduction

The Bosterbio OneStep ELISA kit is a solid phase direct ELISA sandwich kit. Instead of adding samples detection antibody and ABC-HRP separately, The OneStep ELISA kit allows the user to add standards, samples and controls to wells in one step, along with the incubation buffer. After a simple washing step, an enzyme conjugate reagent is added into each well. After the excess enzyme conjugate is washed out, the substrate is added into each well. The enzyme catalyzes the substrate yielding a blue color ( $A_{max} = 370\text{nm}$  and  $652\text{nm}$ ) that changes to yellow ( $A_{max} = 450\text{nm}$ ) upon addition of a sulfuric or phosphoric acid stop solution. The intensity of color developed is directly proportional to the concentration of target protein in the samples. A standard curve is generated relating color intensity to the concentration of target protein.

### Overview

Product Name	Human Carcinoembryonic Antigen (CEA) OneStep ELISA Kit
Reactive Species	Human
Size	96wells/kit, with removable strips.
Description	Human Carcinoembryonic Antigen (CEA) OneStep ELISA Kit, tested with Serum and Plasma. Format: 96wells/kit, with removable strips.
Sensitivity	5 ng/ml *The sensitivity or the minimum detectable dose (MDD) is the lower limit of target protein that can be detected by the kit. It is determined by adding two standard deviations to the mean O.D. value of twenty (20) blank wells and calculating the corresponding concentration.
Detection Range	5-250 ng/ml
Storage Instructions	Store the kit at 2°C to 8°C. Keep microwells sealed in a dry bag with desiccants. The reagents are stable until expiration of the kit. Do not expose reagent to heat, sun, or strong light. Avoid multiple freeze-thaw cycles(Shipped with wet ice.)
Uniprot ID	P06731
Specificity	Natural and recombinant Human CEACAM5
Cross Reactivity	There is no detectable cross-reactivity.

### Kit Components/Materials Provided

Description	Quantity
1. Microwells coated with Streptavidin	12x8x1
2. CEA Standard: 7 vials (ready to use)	0.5ml
3. CEA Enzyme Conjugate: 1 bottle (ready to use)	12ml
4. TMB Substrate: 1 bottle	12ml
5. Stop Solution: 1 bottle (ready to use)	12ml
6. 20X Wash concentrate: 1 bottle	25ml

## Required Materials That Are Not Supplied

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1. Distilled or deionized water
2. Precision pipettes
3. Disposable pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. ELISA reader capable of reading absorbance at 450nm
5. Absorbance paper or paper towel
6. Graph paper

## WARNINGS AND PRECAUTIONS

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1. For Research Use Only. Not for use in diagnostic procedures.
2. For Laboratory use.
3. Not for Internal or External Use in Humans or Animals.
4. There should be no eating or drinking within work area.
5. Always wear gloves and a protective lab coat.
6. No pipetting should be done by mouth. Handle all specimens and reagents as potentially infectious and biohazardous.
7. Do not add sodium azide to samples as preservative.
8. Do not use external controls containing sodium azide.
9. Use disposable pipette tips to avoid contaminating chromogenic substrate reagent. Discard reagent if it turns blue.
10. Do not pour chromogenic substrate back into container after use.
11. Do not freeze reagents.
12. Do not mix reagents from different kit lot numbers.
13. Keep reagents out of direct sunlight.
14. Handle stop reagent with care, since it is corrosive.
15. Bring all reagents to room temperature.
16. Viscous forensic samples should always be diluted in phosphate buffered saline or distilled water prior to pipetting.

17. Ensure the bag containing the micro-plate strips and desiccant is sealed well, if only a few strips are used.

## SPECIMEN COLLECTION AND HANDLING

1. Collect blood specimens and separate the serum immediately.
2. Specimens may be stored refrigerated at (2-8. C) for 5 days. If storage time exceeds 5 days, store frozen at (-20. C) for up to one month.
3. Avoid multiple freeze-thaw cycles.
4. Prior to assay, frozen sera should be completely thawed and mixed well.
5. Do not use grossly lipemic specimens.

## REAGENT PREPARATION

1. Prepare 1X Wash buffer by adding the contents of the bottle (25 ml, 20X) to 475 ml of distilled or deionized water. Store at room temperature (20-25°C).

## ASSAY PROCEDURE

Prior to assay, allow reagents to stand at room temperature (20-25°C). Gently mix all reagents before use.

1. Place the desired number of coated strips into the holder
2. Pipet 25ul of CEA standards, control and patient specimens into designated wells.
3. Add 100ul of ready to use enzyme conjugate to all wells. Shake for (10-30) sec.
4. Cover the plate and incubate for 60 minutes at room temperature.
5. Remove liquid from all wells. Wash wells three times with 300ul of 1X wash buffer. Blot on absorbent paper towels.
6. Add 100ul of TMB substrate to all wells.
7. Incubate for 15 minutes at room temperature.
8. Add 50ul of stop solution to all wells. Shake the plate gently to mix the solution.
9. Read absorbance on ELISA Reader at 450 nm within 15 minutes after adding the stopping solution.

## CALCULATION OF RESULTS

The standard curve is constructed as follows:

1. Check CEA standard value on each standard vial. This value might vary from lot to lot. Make sure you check the value on every kit. See example of the standard attached.
2. To construct the standard curve, plot the absorbance for the hGH standards (vertical axis) axis) versus the CEA standard concentrations (horizontal axis) on a linear graph paper. Draw the best curve through the points.
3. Read the absorbance for controls and each unknown sample from the curve. Record the value for each control or unknown sample.

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