



# **PicoKine™ ELISA**

**Catalog number: EK7049**

For the quantitation of **Human Estrodial (E<sub>2</sub>)** concentrations in  
Serum.

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

## Human Estrodial (E<sub>2</sub>) ELISA Kit (Competitive ELISA)

**Catalog Number:** EK7049

### Introduction

This Bosterbio ELISA kit is designed to measure the concentration of Estrodial (E<sub>2</sub>) in human serum by Competitive ELISA (Enzyme-Linked Immunosorbent Assay). A goat anti-rabbit coated microplate is used to prepare a solid phase secondary antibody, and then add samples, HRP Conjugated Human Estrodial (E<sub>2</sub>) and Rabbit anti- Human Estrodial (E<sub>2</sub>) Antibody to form a coated secondary antibody-anti- Estrodial (E<sub>2</sub>) antibody- Estrodial (E<sub>2</sub>) (HRP) complex. The amount of bound peroxidase conjugate is inversely proportional to the concentration of estradiol in the sample. After color development, the absorbance (O.D. value) is measured by a microplate reader. The concentration-absorbance curve can be fitted by computer or mapping to calculate the concentration of Estrodial (E<sub>2</sub>) in human serum.

### Overview

<b>Product Name</b>	Human Estrodial (E <sub>2</sub> ) ELISA Kit (Competitive ELISA)
<b>Reactive Species</b>	Human
<b>Size</b>	96wells/kit, with removable strips.
<b>Description</b>	Competitive High Sensitivity ELISA kit for Quantitative Detection of Human Estrodial (E <sub>2</sub> ). 96wells/kit, with removable strips.
<b>Sensitivity</b>	40 pg/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.
<b>Detection Range</b>	50-1200 pg/ml
<b>Storage Instructions</b>	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.)
<b>Uniprot ID</b>	P14061
<b>Specificity</b>	Natural and recombinant Human Estrodial (E <sub>2</sub> )
<b>Cross Reactivity</b>	There is no detectable cross-reactivity.

## Kit Components/Materials Provided

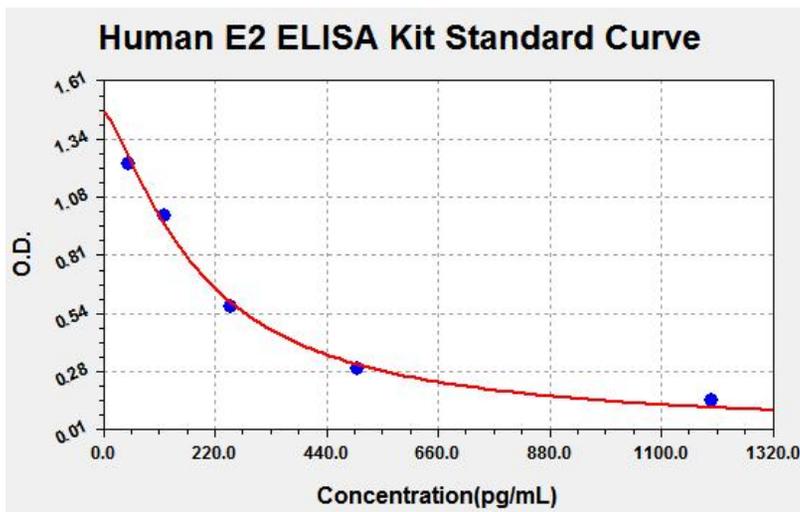
Description	Quantity	Volume	Buffers
Pre-coated 96-well strip microplate	1	8 strips of 12 wells	Goat Anti- Rabbit Secondary Antibody, Polystyrene micro-well plate
Human Estrodial (E <sub>2</sub> ) Standards(S0~S5)	6	0.5ml	Estrodial (E <sub>2</sub> ) (0, 50, 120, 250, 500, 1200 pg/ml), 0.02M PBS, 50% detoxification serum, 0.1% Proclin-300
HRP Conjugated antigen	1	6ml	HRP Conjugated Human Estrodial (E <sub>2</sub> ), 0.02M PBS, 2% BSA, 0.01% azophloxine, 0.1% Proclin-300
Antibody	1	6ml	Rabbit anti- Human Estrodial (E <sub>2</sub> ) Antibody, 0.02M PBS, 2% BSA, 0.1% Proclin-300, 0.01% Evans Blue
Controls	2	0.5ml	Estrodial (E <sub>2</sub> ), 100% natural protein, 0.1% Proclin-300 Range of Control 1: 84-156 pg/mL Range of Control 2: 350-650 pg/mL
20X Wash Buffer Concentrate	1	15ml	0.2M PBS containing 0.5% tween 20
Color Developing Reagent A	1	7ml	11m mol/L Urea hydrogen peroxide
Color Developing Reagent B	1	7ml	2m mol/L 3,3',5,5'-Tetramethylbenzidine
Stop Solution	1	7ml	2mol/L Sulphuric acid
Plate Sealers	2	Piece	

## Required Materials That Are Not Supplied

1. Microplate Reader capable of reading absorbance at 450nm.
2. Automated plate washer (optional)
3. Pipettes and pipette tips capable of precisely dispensing 0.5  $\mu$ l through 1 ml volumes of aqueous solutions. Multichannel pipettes are recommended for large amount of samples.
4. Deionized or distilled water.
5. 500ml graduated cylinders.
6. Test tubes for dilution.

## Typical Data Obtained from Human Estrodial (E<sub>2</sub>) ELISA Kit

Concentration(pg/mL)	0	50	120	250	500	1200
O.D.	1.477	1.230	0.990	0.576	0.290	0.142



## Warnings and Precautions

1. To inspect the validity of experiment operation and the appropriateness of sample dilution proportion, pilot experiment using standards and a small number of samples is recommended.
2. Before using the Kit, spin tubes and bring down all components to the bottom of tubes.
3. Don't let 96-well plate dry, for dry plate will inactivate active components on plate.
4. Don't reuse tips and tubes to avoid cross contamination.
5. Avoid using the reagents from different batches together.

## Sample Preparation and Storage

1. Use a serum separator tube (SST) and allow serum to clot at room temperature for about four hours. Then, centrifuge for 15 min at approximately 1,000 x g. assay immediately or store samples at -20°C.
2. Avoid multiple freeze-thaw cycles.
3. Prior to assay, frozen sera should be completely thawed and mixed well.

Note: Grossly hemolyzed samples and chylemia samples are not suitable for use in this assay, so the samples should be centrifuged adequately and no hemolysis or granule was allowed.

## Preparation Before The Experiment

Item	Preparation
All reagents	Bring all reagents to room temperature (20-25°C) for 30 minutes.
20X Wash Buffer Concentrate	Prepare 1X wash buffer by adding 15 ml of Wash Buffer Concentrate to 285 ml deionized or distilled water to prepare 300 mL of Wash Buffer.

## Assay Procedure

It is recommended that all reagents and materials be equilibrated to 37°C/room temperature prior to the experiment (see Preparation Before The Experiment if you have missed this information).

1. Prepare all reagents and working standards as directed previously.
2. Remove excess microplate strips from the plate frame and seal and store them in the original packaging.
3. Set Standard wells, Sample wells, Control wells and Blank wells, add 50  $\mu$ l of the standard, sample, or control per well. At least two replicates of each standard, sample, control or blank is recommended.
4. Add 50  $\mu$ l of HRP Conjugated Human Estrodial ( $E_2$ ) to each well except for the blank well.
5. Then add 50  $\mu$ l of Rabbit anti- Human Estrodial ( $E_2$ ) Antibody to each well in the same order except for the blank well and mix thoroughly.
6. Cover with plate sealer and incubate for 60 minutes at 37°C.
7. Wash the plate 3 times with the 1x wash buffer.
  - a. Discard the liquid in the wells into an appropriate waste receptacle. Then, invert the plate on the benchtop onto a paper towel and tap the plate to gently blot any remaining liquid. It is recommended that the wells are not allowed to completely dry at any time.
  - b. Add 300  $\mu$ l of the 1x wash buffer to each assay well. (For cleaner background incubate for 60 seconds between each wash).
  - c. Repeat steps a-b 2 additional times.
8. Add 50  $\mu$ l Color Developing Reagent A and 50 $\mu$ l Color Developing Reagent B to each well and incubate in the dark for 15 minutes at 37°C.
9. Add 50  $\mu$ l of Stop Solution to each well.
10. Read absorbance on Plate Reader at 450 nm within 15 minutes after adding the stopping solution.

## Calculation of Results

Average the duplicate readings for each standard, sample, and control. Subtract the average blank O.D. reading.

It is unnecessary to set blank control for dual wavelength plate reader.

It is recommended that a standard curve be created using computer software to generate a four parameter logistic (4-PL) curve-fit. A free program capable of generating a four parameter logistic (4-PL) curve-fit can be found online at: [www.myassays.com/four-parameter-logistic-curve.assay](http://www.myassays.com/four-parameter-logistic-curve.assay).

Alternatively, plot the mean absorbance for each standard against the concentration. The measured concentration in the sample can be interpolated by using linear regression of each average relative OD against the standard curve generated using curve fitting software. This will generate an adequate but less precise fit of the data.

For diluted samples, the concentration reading from the standard curve must be multiplied by the dilution factor.

## Submit a product review to Biocompare.com

Submit a review of this product to Biocompare.com to receive a \$20 Amazon giftcard! Your reviews help your fellow scientists make the right decisions. Thankyou for your contribution.

