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Datasheet for ABIN4886391

Cetuximab ELISA Kit

1 Image

1 Publication

Overview

Quantity:	96 tests
Target:	Cetuximab
Reactivity:	Human, Mouse, Rat
Method Type:	Sandwich ELISA
Detection Range:	1.56-50 ng/mL
Minimum Detection Limit:	1.56 ng/mL
Application:	ELISA

Product Details

Purpose:	Quantification of Cetuximab in biological matrices
Sample Type:	Plasma, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	Cetuximab (Erbitux)
Components:	Coated microtiter plate, 96 wells Calibrator diluent. - 1.8ml Calibrator 12ul 10X wash buffer - 25ml Assay buffer - 50ml 1000X detection reagent - 17ul TMB - 12ml

Product Details

TMB stop solution - 12ml

Plate sealers - 3

Material not included:

Precision pipettes calibrated to deliver 5-1000µL

Multi-channel pipette calibrated to deliver 50-200µL

Plate shaker

Disposable tips

Vortex-Mixer

Distilled or de-ionized water

Microplate reader capable of reading 450nm with background subtrac

Target Details

Target: Cetuximab

Abstract: [Cetuximab Products](#)

Target Type: Antibody

Background: Cetuximab (Erbix[®]) is a chimeric IgG1 monoclonal antibody that binds the extra-cellular domain of the epidermal growth factor receptor (EGFR). It is a 152- kDa molecule composed of four polypeptide chains: two identical heavy chains and two identical light chains, consisting of 449 and 214 amino acids, respectively, bound by covalent and non-covalent bonds. The bond with EGFR is characterized by a higher affinity than either endogenous ligand, as epidermal growth factor (EGF), or transforming growth factor alpha. This binding inhibits activation of the receptor tyrosine kinase and the associated downstream signaling that includes the mitogenactivated protein kinase, phosphoinositide 3-kinase/ Akt and the Janus kinases/ signal transducers and activator of transcription (Stat) pathways. Furthermore Cetuximab induces antibody-mediated receptor dimerization, internalization and degradation leading to receptor down-regulation. In addition, it exhibits antibody-dependent cellular cytotoxicity that could contribute to its antitumor effect.

Gene ID: 1956

Application Details

Application Notes: Optimal working dilution should be determined by the investigator.

Sample Volume: 15 µL

Assay Time: 2.5 h

Application Details

Plate:	Pre-coated
Protocol:	The Cetuximab ELISA kit is designed to measure free Cetuximab with high specificity and sensitivity. This assay employs the sandwich enzyme immunoassay technique. A pre-coated anti-Cetuximab 96 well plate is provided. Calibrator, quality control samples and test samples are pipetted into the appropriate wells. Cetuximab present in biological matrices is bound by the immobilized capture antibody. After washing away any unbound substances, enzyme linked detection antibody is added to the wells. The plate is washed to remove any unbound antibody-enzyme reagent and a substrate solution is added to the wells for color development. The color development is proportional to the amount of Cetuximab present in test samples and the concentration is calculated from the standard series.
Reagent Preparation:	Prepare only the appropriate amount of required reagent on the day of use. Store all reagents as per instructions stated on the label. 1. Wash Buffer (1X) Preparation Dilute wash buffer concentrate with deionized water 1/10 before use (for example add 20 mL concentrate to 180 mL deionized water). Mix well. 2. Detection Reagent (1X) Preparation: Dilute detection reagent with assay buffer 1/1000 before use (for example add 11 µL concentrate to 11 mL of assay buffer). Mix well. 3. Preparation of Calibrators: Prepare calibrators with concentrations ranging from 5,000 ng/mL to 156 ng/mL. The following is an example calibrator curve.
Sample Collection:	This kit is compatible with EDTA-plasma, heparinplasma and serum samples. Samples can be stored at or below -20 °C for up to 1 year.
Sample Preparation:	Dilute calibrators and test samples 1/100 with assay buffer (for example add 5µL of prepared calibrator or sample to 495µL of assay buffer). Mix well. Do not store diluted samples.
Assay Procedure:	This assay employs the sandwich enzyme immunoassay technique. Anti- Cetuximab is coated onto a 96 well microplate. Calibrator, quality control samples (if desired) and test samples are pipetted into the appropriate wells. Cetuximab present in biological matrices is bound by the immobilized anti- Cetuximab antibody. After washing away any unbound substances, enzyme linked anti- Cetuximab antibody is added to the wells. This antibody is developed and purified specifically against truncated Erbitux® (domain residing in Fc portion of the Erbitux® molecule). The plate is washed to remove any unbound antibody-enzyme reagent and a substrate solution is added to the wells for color development. The color development is proportional to the amount of Cetuximab present in test samples. The color development is stopped and the intensity of the color is measured.
Calculation of Results:	1. Construct a standard curve by plotting the absorbance obtained from each standard against concentration. Use a 4 or 5 parameter curve fit. Alternatively a log-log curve fit may be used. 2. The concentration of the unknowns can be read directly from this standard curve using the

Application Details

absorbance value for each sample. 3. Any sample undiluted or diluted still reading greater than the highest standard should be diluted appropriately with calibrator diluent and retested. If the samples have been diluted, the concentration determined from the standard curve must be multiplied by the dilution factor.

Assay Precision:	Precision: The precision was determined by analyzing samples prepared at 500 ng/mL in 6 replicates on 6 different occasions. Intra-assay coefficient of variation (CV) < 10%. Inter-assay CV < 10%. Recovery: 1000 ng/mL of Cetuximab was spiked in 10 lots of human serum. Recovery ranges are from 91-113% with an average recovery of 106%.
Restrictions:	For Research Use only

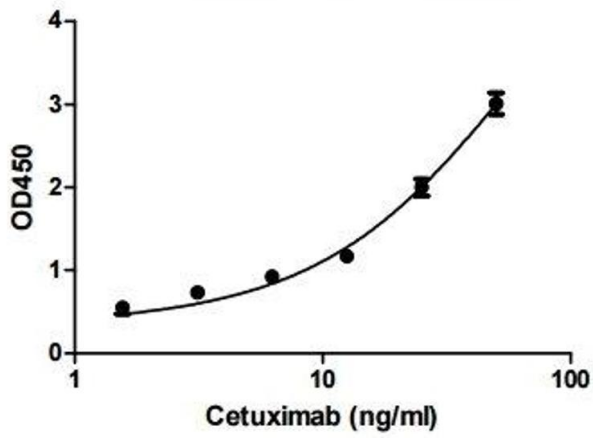
Handling

Preservative:	Without preservative
Precaution of Use:	Read manual completely before beginning
Storage:	-20 °C
Storage Comment:	Store kit components at -20°C unless specified otherwise. DO NOT USE past kit expiration date. Some vials contain a small amount of reagents. Spin tubes on pulse setting prior to opening.
Expiry Date:	12 months

Publications

Product cited in:	Chen, Mao, Qiu, Liu: "Gene transfection mediated by polyethyleneimine-polyethylene glycol nanocarrier prevents cisplatin-induced spiral ganglion cell damage." in: Neural regeneration research , Vol. 10, Issue 3, pp. 425-31, (2015) (PubMed).
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Cetuximab standard curve



ELISA

Image 1.