Datasheet for ABIN1440256

PROZ ELISA Kit

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Overview

Quantity:	96 tests
Target:	PROZ
Reactivity:	Human
Method Type:	Sandwich ELISA
Minimum Detection Limit:	~1.5 ng/mL
Application:	ELISA

Product Details

Purpose:	The AssayMax Human Protein Z ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for detection of human Protein Z in plasma, serum, urine, milk, and cell culture samples. This assay employs a quantitative sandwich enzyme immunoassay technique that measures human Protein Z in less than 4 hours. A polyclonal antibody specific for human Protein Z has been pre- coated onto a 96-well microplate with removable strips. Protein Z in standards and samples is sandwiched by the immobilized antibody and the biotinylated polyclonal antibody specific for Protein Z, which is recognized by a streptavidin-peroxidase conjugate. All unbound material is then washed away and a peroxidase enzyme substrate is added. The color development is stopped and the intensity of the color is measured.
Brand:	AssayMax
Sample Type:	Serum, Milk, Urine, Plasma, Cell Culture Supernatant
Analytical Method:	Quantitative
Detection Method:	Colorimetric

Product Details

Cross-Reactivity (Details):	Cross-Reactivity: Monkey 5%, Swine 1%
Characteristics:	Standard Added Value: 5 - 50 ng/mL
Components:	Human Protein Z Microplate: A 96-well polystyrene microplate (12 strips of 8 wells) coated with a polyclonal antibody against human Protein Z. Sealing Tapes: Each kit contains 3 pre-cut, pressure-sensitive sealing tapes that can be cut to fit the format of the individual assay. Human Protein Z Standard: Human Protein Z in a buffered protein base (400 ng, lyophilized). Biotinylated Protein Z Antibody (50x): A 50-fold concentrated biotinylated polyclonal antibody against Protein Z (140 µL). MIX Diluent Concentrate (10x): A 10-fold concentrated buffered protein base (30 mL). Wash Buffer Concentrate (20x): A 20-fold concentrated buffered surfactant (30 mL, 2 bottles). Streptavidin-Peroxidase Conjugate (SP Conjugate): A 100-fold concentrate (80 µL). Chromogen Substrate: A ready-to-use stabilized peroxidase chromogen substrate tetramethylbenzidine (8 mL). Stop Solution: A 0.5 N hydrochloric acid to stop the chromogen substrate reaction (12 mL).
Material not included:	Microplate reader capable of measuring absorbance at 450 nm Pipettes (1-20 µL, 20-200 µL, 200-1000µL and multiple channel) Deionized or distilled reagent grade water

Target Details

Target:	PROZ
Alternative Name:	Protein Z (PROZ Products)
Background:	Protein Z (PZ) is a 62 kDa vitamin K-dependent plasma glycoprotein consisting of 360 amino acids in the mature protein. PZ circulates as a cofactor of the PZ-dependent inhibitor (ZPI) to accelerate the inhibition of activated factor X on phospholipid surfaces. PZ appears to assist hemostasis by binding thrombin and promoting its association with phospholipid vesicles. PZ deficiency may induce bleeding as well as thrombosis. PZ deficiency could be a risk for venous and arterial thrombosis and early fetal loss. PZ and/or ZPI are synthesized by normal kidney and different cancer cells, suggesting that the complex PZ/ZPI could play a role in inhibiting the tissue deposition of fibrin.

Application Details

Assay Time:	< 4 h

Application Details

Plate:	Pre-coated
Reagent Preparation:	Freshly dilute all reagents and bring all reagents to room temperature before use. MIX Diluent Concentrate (10x): If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the MIX Diluent 1:10 with reagent grade water. Store for up to 1 month at 2-8°C. Standard Curve: Reconstitute the 400 ng of Protein Z Standard with 4 mL of MIX Diluent to generate a solution of 100 ng/mL. Allow the standard to sit for 10 minutes with gentle agitation prior to making dilutions. Prepare duplicate or triplicate standard points by serially diluting the standard solution (100 ng/mL) 1:2 with equal volume of MIX Diluent to produce 50, 25, 12.5, 6.25, 3.13, and 1.56 ng/mL solutions. MIX Diluent serves as the zero standard (0 ng/mL). Any remaining solution should be frozen at -20°C and used within 30 days. Biotin Protein Z Antibody (50x): Spin down the antibody briefly and dilute the desired amount of the antibody 1:50 with MIX Diluent. Any remaining solution should be frozen at -20°C. Wash Buffer Concentrate (20x): If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the Wash Buffer Concentrate 1:20 with reagent grade water. SP Conjugate (100x): Spin down the SP Conjugate briefly and dilute the desired amount of the conjugate 1:100 with MIX Diluent. Any remaining solution should be frozen at -20°C.
Sample Preparation:	Plasma: Collect plasma using one-tenth volume of 0.1 M sodium citrate as an anticoagulant. Centrifuge samples at 2000 x g for 10 minutes and assay. Dilute samples 1:200 into MIX Diluent. The undiluted samples can be stored at <-20°C for up to 3 months. Avoid repeated freeze-thaw cycles. (EDTA or Heparin can also be used as anticoagulant.) Serum: Samples should be collected into a serum separator tube. After clot formation, centrifuge samples at 2000 x g for 10 minutes. Remove serum and assay. Dilute samples 1:200 into MIX Diluent. The undiluted samples can be stored at <-20°C for up to 3 months. Avoid repeated freeze-thaw cycles. Milk: Collect milk using sample tube. Centrifuge samples at 800 x g for 10 minutes. Dilute samples 1:2 into MIX Diluent Store samples at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles. 3 Cell Culture Supernatants: Centrifuge cell culture media at 3000 x g for 10 minutes to remove debris. Collect supernatants and assay. Store samples at -20°C or below. Avoid repeated freeze-thaw cycles. Urine: Collect urine using sample tube. Centrifuge samples at 800 x g for 10 minutes. Dilute samples 1:4 into MIX Diluent and assay. If necessary dilute samples within the range of 2x-20x. Store samples at -20°C or below for up to 3 months. Avoid repeated freeze-thaw cycles.

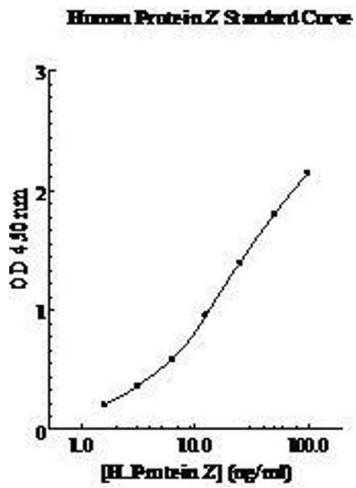
Application Details

Assay Procedure:	Prepare all reagents, working standards and samples as instructed. Bring all reagents to room temperature before use. The assay is performed at room temperature (20-30°C). Remove excess microplate strips from the plate frame and return them immediately to the foil pouch with desiccant inside. Reseal the pouch securely to minimize exposure to water vapor and store in a vacuum desiccator. Add 50 µL of Protein Z standard or sample per well. Cover wells with a sealing tape and incubate for two hours. Start the timer after the last sample addition. Wash five times with 200 µL of Wash Buffer manually. Invert the plate each time and decant the contents, hit it 4-5 times on absorbent paper towel to completely remove the liquid. If using a machine wash six times with 300 µL of Wash Buffer and then invert the plate, decant the contents, hit it 4-5 times on absorbent paper towel to completely remove the liquid. Add 50 µL of Biotinylated Protein Z Antibody to each well and incubate for one hour. Wash the microplate as described above. Add 50 µL of Streptavidin-Peroxidase Conjugate to each well and incubate for 30 minutes. Turn on the microplate reader and set up the program in advance. Wash the microplate as described above. Add 50 µL of Chromogen Substrate per well and incubate for about 20 minutes or till the optimal blue color density develops. Gently tap plate to ensure thorough mixing and break the bubbles in the well with pipette tip. Add 50 µL of Stop Solution to each well. The color will change from blue to yellow. Read the absorbance on a microplate reader at a wavelength of 450 nm immediately. If wavelength correction is available, subtract readings at 570 nm from those at 450 nm to correct optical imperfections. Otherwise, read the plate at 450 nm only. Please note that some unstable black particles may be generated at high concentration points after stopping the reaction for about 10 minutes, which will reduce the readings.
Calculation of Results:	Calculate the mean value of the duplicate or triplicate readings for each standard and sample. To generate a Standard Curve, plot the graph using the standard concentrations on the x-axis and the corresponding mean 450 nm absorbance on the y-axis. The best-fit line can be determined by regression analysis using log-log or four-parameter logistic curve-fit. Determine the unknown sample concentration from the Standard Curve and multiply the value by the dilution factor.
Assay Precision:	Intra-assay and inter-assay coefficients of variation were 4.9% and 7.1% respectively.
Restrictions:	For Research Use only

Handling

Handling Advice:	Prepare all reagents (working diluent buffer, wash buffer, standards, biotinylated- antibody, and SP conjugate) as instructed, prior to running the assay. Prepare all samples prior to running the assay. The dilution factors for the samples are suggested in this protocol. However, the user should determine the optimal dilution factor. Spin down the SP conjugate vial and the biotinylated-antibody vial before opening and using contents. The kit should not be used beyond the expiration date. The Stop Solution is an acid solution
Storage:	4 °C/-20 °C
Storage Comment:	Store components of the kit at 2-8°C or -20°C upon arrival up to the expiration date. Store SP Conjugate and Biotinylated Antibody at -20°C Store Microplate, Diluent Concentrate (10x), Wash Buffer, Stop Solution, and Chromogen Substrate at 2-8°C Opened unused microplate wells may be returned to the foil pouch with the desiccant packs. Reseal along zip-seal. May be stored for up to 1 month in a vacuum desiccator. Diluent (1x) may be stored for up to 1 month at 2-8°C. Store Standard at 2-8°C before reconstituting with Diluent and at -20°C after reconstituting with Diluent.

Images



ELISA

Image 1.