Datasheet for ABIN624938

ANG ELISA Kit

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Overview

Quantity:	96 tests
Target:	ANG
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	1.5-400 pg/mL
Minimum Detection Limit:	1.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Human Angiogenin ELISA Kit for cell culture supernatants, plasma, and serum samples.
Sample Type:	Plasma, Cell Culture Supernatant, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This ELISA kit shows no cross-reactivity with any of the cytokines tested: Human BDNF, BLC, ENA-78, FGF-4, IL-1 alpha, IL-1 beta, IL-2, IL-3, IL-4, IL-5, IL-7, IL-8, IL-9, IL-11, IL-12 p70, IL-12 p40, IL-13, IL-15, I-309, IP-10, G-CSF, GM-CSF, IFN-gamma, Leptin (OB), MCP-1, MCP-2, MCP-3, MDC, MIP-1 alpha, MIP-1 beta, MIP-1 delta, PARC, PDGF, RANTES, SCF, TARC, TGF-beta, TIMP-1, TIMP-2, TNF-alpha, TNF-beta, TPO, VEGF.
Sensitivity:	< 1.5 pg/mL
Characteristics:	• Strip plates and additional reagents allow for use in multiple experiments

Product Details

	• Quantitative protein detection • Establishes normal range • The best products for confirmation of antibody array data
Components:	• Pre-Coated 96-well Strip Microplate • Wash Buffer • Stop Solution • Assay Diluent(s) • Lyophilized Standard • Biotinylated Detection Antibody • Streptavidin-Conjugated HRP • TMB One-Step Substrate
Material not included:	• Distilled or deionized water • Precision pipettes to deliver 2 µL to 1 µL volumes • Adjustable 1-25 µL pipettes for reagent preparation • 100 µL and 1 liter graduated cylinders • Tubes to prepare standard and sample dilutions • Absorbent paper • Microplate reader capable of measuring absorbance at 450nm • Log-log graph paper or computer and software for ELISA data analysis

Target Details

Target:	ANG
Alternative Name:	Angiogenin (ANG Products)
Background:	Angiogenesis is the preferred term for processes leading to the generation of new blood vessels through sprouting from already existing blood vessels. The processes involve the migration and proliferation of endothelial cells from pre-existing vessels. Angiogenic factors are of clinical significance because they may be used to interfere directly with angiogenic processes involved, for example, in wound healing, inflammatory diseases, ischemic heart and peripheral vascular diseases, and myocardial infarctions. The Human Angiogenin ELISA (Enzyme-Linked Immunosorbent Assay) kit is an in vitro enzyme-linked immunosorbent assay for the quantitative measurement of human Angiogenin in serum, plasma, cell culture supernates and urine. This assay employs an antibody specific for human Angiogenin coated on a 96-well plate. Standards and samples are pipetted into the wells and Angiogenin present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-human Angiogenin antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again

Target Details

	washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of Angiogenin bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm. Reproducibility: Intra-Assay: CV<10% Inter-Assay: CV<12%.
Gene ID:	283
UniProt:	P03950

Application Details

Application Notes:	Recommended Dilution for serum and plasma samples1,000 - 10,000 fold
Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	1. Prepare all reagents, samples and standards as instructed in the manual. 2. Add 100 µL of standard or sample to each well. 3. Incubate 2.5 h at RT or O/N at 4 °C. 4. Add 100 µL of prepared biotin antibody to each well. 5. Incubate 1 h at RT. 6. Add 100 µL of prepared Streptavidin solution to each well. 7. Incubate 45 min at RT. 8. Add 100 µL of TMB One-Step Substrate Reagent to each well. 9. Incubate 30 min at RT. 10. Add 50 µL of Stop Solution to each well. 11. Read at 450 nm immediately.
Reagent Preparation:	1. Bring all reagents and samples to room temperature (18-25 °C) before use. 2. Sample dilution: If your samples need to be diluted, Assay Diluent A (Item D) should be used for dilution of serum/plasma samples. 1x Assay Diluent B (Item E) should be used for dilution of culture supernatants and urine. Suggested dilution for normal serum/plasma: 1,000-10,000 fold*. * Please note that levels of the target protein may vary between different specimens. Optimal dilution factors for each sample must be determined by the investigator. 3. Assay Diluent B should be diluted 5-fold with deionized or distilled water. 4. Preparation of standard: Briefly spin the vial of Item C and then add 400 µL Assay Diluent A (for serum/plasma samples) or 1x Assay Diluent B (for cell culture medium and urine) to prepare a 50 ng/mL standard. Dissolve the powder thoroughly by a gentle mix. Add 6 µL standard from the vial of Item C, into a tube with 744 µL Assay Diluent A or 1x Assay Diluent B to prepare a 400 pg/mL stock standard solution. Pipette 450 µL Assay Diluent A or 1x Assay Diluent B into each tube. Use the stock standard solution to produce a dilution series . Mix each

	tube thoroughly before the next transfer. Assay Diluent A or 1x Assay Diluent B serves as the zero standard (0 pg/mL). 300 µL 6 µL standard +744 µL 300myl 300 µL 300 µL 300 µL 300 µL 400 160 64 25.6 10.24 4.10 1.64 0 pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL pg/mL 5. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 ml of Wash Buffer Concentrate into deionized or distilled water to yield 400 ml of 1x Wash Buffer. 6. Briefly spin the Detection Antibody vial (Item F) before use. Add 100 µL of 1x Assay Diluent B into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4 °C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1x Assay Diluent B and used in step 4 of Part VI Assay Procedure. 7. Briefly spin the HRP-Streptavidin concentrate vial (Item G) before use. HRP-Streptavidin concentrate should be diluted 700-fold with 1x Assay Diluent B. For example: Briefly spin the vial (Item G) and pipette up and down to mix gently . Add 20 µL of HRP-Streptavidin concentrate into a tube with 14 ml 1x Assay Diluent B to prepare a final 700 fold diluted HRP-Streptavidin solution.
Assay Procedure:	1. Bring all reagents and samples to room temperature (18 - 25 °C) before use. It is recommended that all standards and samples be run at least in duplicate. 2. Add 100 µL of each standard (see Reagent Preparation step 2) and sample into appropriate wells. Cover well and incubate for 2.5 hours at room temperature or over night at 4 °C with gentle shaking. 3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 myl) using a multi-channel Pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels. 4. Add 100 µL of 1x prepared biotinylated antibody (Reagent Preparation step 6) to each well. Incubate for 1 hour at room temperature with gentle shaking. 5. Discard the solution. Repeat the wash as in step 6. Add 100 µL of prepared Streptavidin solution (see Reagent Preparation step 7) to each well. Incubate for 45 minutes at room temperature with gentle shaking. 7. Discard the solution. Repeat the wash as in step 8. Add 100 µL of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking. 9. Add 50 µL of Stop Solution (Item I) to each well. Read at 450 nm immediately.
Calculation of Results:	Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph

Application Details

	paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points. Typical Data: These standard curves are for demonstration only. A standard curve must be run with each assay. Human ANG concentration (pg/mL) 1 10 100 1000 O D =4 50 n m 0.1 1 10 Assay Diluent A Human ANG concentration (pg/mL) 1 10 100 1000 O D =4 50 n m 0.01 0.1 1 10 Assay Diluent B Sensitivity: The minimum detectable dose of Angiogenin is typically less than 1.5 pg/mL. Recovery: Recovery was determined by spiking various levels of human Angiogenin into human serum, plasma and cell culture media. Mean recoveries are as follows: Sample Type Average % Recovery Range (%) Serum 95.95 82-105 Plasma 93.49 83-104 Cell culture media 95.37 85-104 Linearity: Sample Type Serum Plasma Cell culture media 1:2 Average % of Expected 97 95 98 Range (%) 83-104 85-103 85-105 1:4 Average % of Expected 96 95 95 Range (%) 84-103 86-104 84-102 Reproducibility: Intra-Assay: CV<10 % Inter-Assay: CV<12 %
Assay Precision:	Intra-Assay: CV< 10 % Inter-Assay: CV< 12 %
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-20 °C
Storage Comment:	The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C.
Expiry Date:	6 months

Publications

Product cited in:	Atesoglu, Tarkun, Mehtap, Demirsoy, Atalay, Maden, Celebi, Hacihanefioglu: "Serum Angiopoietin Levels are Different in Acute and Chronic Myeloid Neoplasms: Angiopoietins do not only Regulate Tumor Angiogenesis." in: **Indian journal of hematology & blood transfusion : an official journal of Indian Society of Hematology and Blood Transfusion**, Vol. 32, Issue 2, pp. 162-7, (2016) (PubMed).

Publications

Oh, Park, Song, Lee, Cho, Kim, Chu, Choi, Park: "Radiation-induced angiogenic signaling pathway in endothelial cells obtained from normal and cancer tissue of human breast." in: **Oncogene**, Vol. 33, Issue 10, pp. 1229-38, (2014) (PubMed).

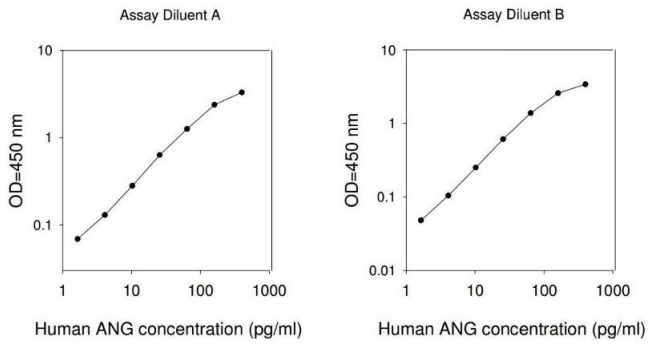
Koob, Lim, Massee, Zabek, Rennert, Gurtner, Li: "Angiogenic properties of dehydrated human amnion/chorion allografts: therapeutic potential for soft tissue repair and regeneration." in: **Vascular cell**, Vol. 6, pp. 10, (2014) (PubMed).

Wertenbroek, Schepers, Kamminga-Rasker, Bottema, Muller Kobold, Roelofsen, de Jong: " Clinical outcome, proteome kinetics and angiogenic factors in serum after thermoablation of colorectal liver metastases." in: **BMC cancer**, Vol. 13, pp. 266, (2014) (PubMed).

Pflum, Palumbo, Li: "Adverse effect of demineralized bone powder on osteogenesis of human mesenchymal stem cells." in: **Experimental cell research**, Vol. 319, Issue 13, pp. 1942-55, (2013) (PubMed).

There are more publications referencing this product on: Product page

Images



ELISA

Image 1.