Datasheet for ABIN624948

FGF2 ELISA Kit

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Overview

Quantity:	96 tests
Target:	FGF2
Reactivity:	Human
Method Type:	Sandwich ELISA
Application:	ELISA

Product Details

Purpose:	Human bFGF ELISA Kit for cell and tissue lysate samples.
Sample Type:	Tissue Lysate, Cell Lysate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	The antibody pair provided in this kit recognizes human bFGF.
Sensitivity:	50 pg/mL
Characteristics:	• Strip plates and additional reagents allow for use in multiple experiments • 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)

Product Details

	• 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 • Cell lysate buffer

Target Details

Target:	FGF2
Alternative Name:	bFGF (FGF2 Products)
Background:	BFGF (basic fibroblast growth factor) is found in almost all tissues of mesodermal and neuroectodermal origin and also in tumors derived from these tissues. Endothelial cells produce large amounts of this factor. Some bFGF is associated with the extracellular matrix of the subendothelial cells. bFGF is an 18 kDa protein with a length of 155 amino acids and an isoelectric point of 9.6. It does not contain disulfide bonds and is not glycosylated. bFGF stimulates the growth of fibroblasts, myoblasts, osteoblasts, neuronal cells, endothelial cells, keratinocytes, chondrocytes, and many other cell types. bFGF has been shown to be a promoting or inhibitory modulator of cellular differentiation also for other cell types. bFGF is not only a mitogen for chondrocytes but also inhibits their terminal differentiation. The Human bFGF ELISA (Enzyme-Linked Immunosorbent Assay) kit is an in vitro enzyme-linked immunosorbent assay for the quantitative measurement of human bFGF cell lysate and tissue lysate. This assay employs an antibody specific for human bFGF coated on a 96-well plate. Standards and samples are pipetted into the wells and bFGF present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-human bFGF antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of bFGF 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%.

Target Details

Gene ID:	2247
UniProt:	P09038
Pathways:	RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, C21-Steroid Hormone Metabolic Process, Inositol Metabolic Process, Glycosaminoglycan Metabolic Process, Protein targeting to Nucleus, S100 Proteins

Application Details

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: Tissue lysate and cell lysate sample should be diluted at least 5-fold with 1x Sample Diluent Buffer. 3. Sample Diluent Buffer (Item D) and Assay Diluent (Item E) should be diluted 5-fold with deionized or distilled water before use. 4. Preparation of standard: Briefly spin the vial of Item C. Add 400 µL 1x Sample Diluent Buffer (Item D) into Item C vial to prepare a 100 ng/mL standard. Dissolve the powder thoroughly by a gentle mix. Add 100 µL bFGF standard from the vial of Item C, into a tube with 900 µL Sample Diluent Buffer to prepare a 10,000 pg/mL stock standard solution. Pipette 300 µL 1x Sample Diluent Buffer into each tube. Use the stock standard solution to produce a dilution series . Mix each tube thoroughly before the next transfer. 1x Sample Diluent Buffer serves as the zero standard (0 pg/mL). 200 µL 200myl 200 µL 200 µL 100 µL standard + 900 µL 200 µL 10,000 4,000 1,600 640 256 102.4 0 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 Diuent 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 65-fold with 1x Assay Diuent and used in step 4 of Part VI Assay Procedure. 7. Briefly spin the HRP-Streptavidin concentrate vial (Item G) and pipette up and down to mix gently before use. HRP-Streptavidin concentrate should be diluted 120-fold with 1x Assay Diuent. For example: Briefly spin the vial (Item G) and pipette up and down to mix gently . Add 100 µL of HRP-Streptavidin concentrate into a tube with 12 ml 1x Assay Diluent to prepare a 120-fold diluted HRP-Streptavidin solution (don't store the diluted solution for next day use). Mix well. 8. Cell lysate buffer should be diluted 2-fold with deionized or distilled water before use (for cell lysate and tissue lysate).
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. We recommend using 50-500 myg/mL of total protein for lysate sample. The amount of sample used depends on the abundance of target protein. More of the sample can be used if signals are too weak. If signals are too strong, the sample can be diluted further. 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

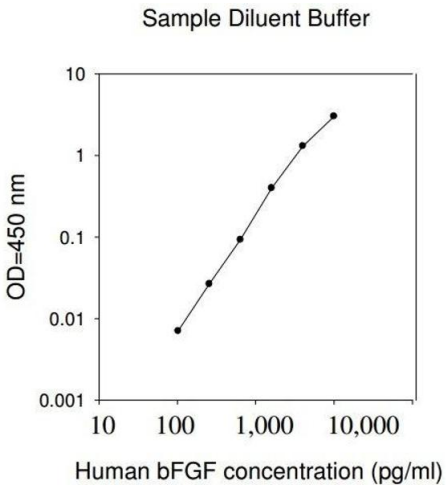
	paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points. Typical Data: These standard curves are for demonstration only. A standard curve must be run with each assay. Sample Diluent Buffer Human bFGF concentration (pg/mL) O D =4 50 n m 0.001 0.01 0.1 1 10 10 100 1,000 10,000 Sensitivity: The minimum detectable dose of bFGF is typically less than 50 pg/mL. Recovery: Recovery was determined by spiking various levels of human bFGF into human tissue lysate and cell lysate. Mean recoveries are as follows: Sample Type Average % Recovery Range (%) Tissue lysate 95.87 86-107 Cell lysate 97.65 87-108 Linearity: Sample Type Tissue Cell Lysate lysate 1:2 Average % of 97 97 Expected Range (%) 89-107 89-107 1:4 Average % of 96 95 Expected Range (%) 88-106 89-107 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:	Baird, Klagsbrun: "The fibroblast growth factor family." in: **Cancer cells (Cold Spring Harbor, N.Y. : 1989)**, Vol. 3, Issue 6, pp. 239-43, (1991) (PubMed). Burgess, Maciag: "The heparin-binding (fibroblast) growth factor family of proteins." in: **Annual review of biochemistry**, Vol. 58, pp. 575-606, (1989) (PubMed).



ELISA

Image 1.