

Datasheet for ABIN5564605

**PAK4 ELISA Kit****1** Image[Go to Product page](#)

## Overview

Quantity:	96 tests
Target:	PAK4
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	0.156-10 ng/mL
Minimum Detection Limit:	0.156 ng/mL
Application:	ELISA

## Product Details

Purpose:	The AssayMax™ Human p21-Activated Kinase 4 Isoform 1 (PAK4) ELISA (Enzyme- Linked Immunosorbent Assay) kit is designed for detection of human PAK4 in plasma, serum, and cell culture samples. This assay employs a quantitative sandwich enzyme immunoassay technique that measures human PAK4 in less than 5 hours. A polyclonal antibody specific for human PAK4 has been pre- coated onto a 96-well microplate with removable strips. PAK4 in standards and samples is sandwiched by the immobilized antibody and the biotinylated polyclonal antibody specific for PAK4, which is recognized by a streptavidin- peroxidase conjugate. All unbound material is 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:	Cell Culture Cells, Plasma, Serum
Analytical Method:	Quantitative

## Product Details

Detection Method:	Colorimetric
Components:	Human PAK4 Microplate: A 96-well polystyrene microplate (12 strips of 8 wells) coated with a polyclonal antibody against human PAK4. Sealing Tapes: Each kit contains 3 precut, pressure sensitive sealing tapes that can be cut to fit the format of the individual assay. Human PAK4 Standard: Human PAK4 in a buffered protein base (10 ng, lyophilized). Biotinylated Human PAK4 Antibody (50x): A 50-fold concentrated biotinylated polyclonal antibody against PAK4 (120 l). EIA Diluent Concentrate (10x): A 10-fold concentrated buffered protein base (20 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 l). 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 405 nm. Pipettes (1-20 µL, 20-200 µL, and multiple channel). Deionized or distilled reagent grade water Incubator (37 °C)

## Target Details

Target:	PAK4
Alternative Name:	p21-Activated Kinase 4 (PAK-4) ( <a href="#">PAK4 Products</a> )
Background:	<p>P21-activated kinase 4 (PAK4), also known as serine/threonine-protein kinase PAK 4, PAK4, and p21 protein (Cdc42/Rac)-activated kinase 4, belongs to a family of serine/threonine p21-activated kinases. PAK proteins are critical effectors that link Rho GTPases to cytoskeleton reorganization and nuclear signaling. They serve as targets for the small GTP binding proteins cell division cycle 42 (Cdc42) and Rac. The proteins have been implicated in a wide range of biological activities. The 591-aa PAK4 interacts specifically with the GTP- bound form of Cdc42Hs and weakly activates the JNK family of MAP kinases. PAK4 is a mediator of filopodia formation and may play a role in the reorganization of the actin cytoskeleton. Multiple alternatively spliced transcript variants encoding distinct isoforms have been found for this gene (1-3). PAK4 also has roles in promoting anchorage-independent growth, regulating cell proliferation and migration, and protecting cells from apoptosis (4-5).</p>
Gene ID:	10298
UniProt:	<a href="#">O96013</a>
Pathways:	<a href="#">RTK Signaling</a>

## Application Details

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Plate:	Pre-coated
Protocol:	<ul style="list-style-type: none"><li>• Step 1. Add 50 µL of Standard or Sample per well. Incubate 2 hours.</li><li>• Step 2. Wash, then add 50 µL of Biotinylated Antibody per well. Incubate 1 hour.</li><li>• Step 3. Wash, then add 50 µL of SP Conjugate per well. Incubate 30 minutes.</li><li>• Step 4. Wash, then add 50 µL of Chromogen Substrate per well. Incubate 30 minutes.</li><li>• Step 5. Add 50 µL of Stop Solution per well. Read at 450 nm immediately.</li></ul>
Reagent Preparation:	Freshly dilute all reagents and bring all reagents to room temperature before use. EIA Diluent Concentrate (10x): If crystals have formed in the concentrate, mix gently until the crystals have completely dissolved. Dilute the EIA Diluent Concentrate 1:10 with reagent grade water. Store for up to 30 days at 2-8 °C.
Sample Collection:	Plasma: Collect plasma using one-tenth volume of 0.1 M sodium citrate as an anticoagulant. Centrifuge samples at 3000 x g for 10 minutes, and assay. The undiluted samples can be stored at -20 °C or below 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 3000 x g for 10 minutes, remove serum, and assay. The undiluted samples can be stored at -20 °C or below for up to 3 months. Avoid repeated freeze-thaw cycles. Cell Culture Supernatants: Centrifuge cell culture media at 3000 x g for 10 minutes to remove debris. Collect supernatants and assay. Store the remaining samples at -20 °C or below. Avoid repeated freeze-thaw cycles.
Assay Procedure:	Prepare all reagents, standard solutions, and samples as instructed. Bring all reagents to room temperature before use. The assay is performed at room temperature (20-25 °C). Remove excess microplate strips from the plate frame and return them immediately to the foil pouch with desiccants inside. Reseal the pouch securely to minimize exposure to water vapor and store in a vacuum desiccator. Add 50 l of Human PAK4 Standard or sample per well. Cover wells with a sealing tape and incubate for 2 hours. Start the timer after the last addition. Wash five times with 200 l of Wash Buffer manually. Invert the plate each time and decant the contents, hit 4-5 times on absorbent material to completely remove the liquid. If using a machine, wash six times with 300 l of Wash Buffer and then invert the plate, decanting the contents, hit 4-5 times on absorbent material to completely remove the liquid. Add 50 l of Biotinylated Human PAK4 Antibody to each well and incubate for 1 hour. Wash the microplate as described above. Add 50 l of Streptavidin-Peroxidase Conjugate to each well and incubate for 30 minutes. Turn on the microplate reader and set up the program in advance. 5 Wash the microplate as described above. Add 50 l of Chromogen Substrate per well and incubate for 30 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 l of Stop Solution to each well.

Application Details

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 (OD) 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.

Restrictions:

For Research Use only

Handling

Handling Advice:

This product is for Research Use Only and is not intended for use in diagnostic procedures. Prepare all reagents (working diluent buffer, wash buffer, standard, biotinylated antibody, and SP conjugate) as instructed, prior to running the assay. 2 Prepare all samples prior to running the assay. The dilution factors for the samples are suggested in this insert. 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 Stop Solution is an acidic solution. The kit should not be used beyond the expiration date.

Storage:

4 °C,-20 °C

Storage Comment:

Upon arrival, immediately store components of the kit at recommended temperatures 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. Unused microplate wells may be returned to the foil pouch with the desiccant packs and resealed. May be stored for up to 30 days in a vacuum desiccator. Diluent (1x) may be stored for up to 30 days at 2-8°C. Store Standard at 2-8°C before reconstituting with Diluent and at -20°C after reconstituting with Diluent. 3

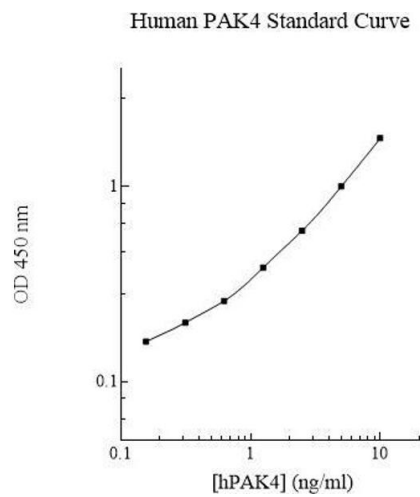


Image 1.