Akt kinase activity kit

This is a non-radioactive Akt kinase activity assay, providing a safe, rapid and reliable method for the screening of inhibitors or activators of Akt and for quantitating the activity of Akt in purified or partially purified enzyme preparations. The Akt Kinase activity kit is based on a solid phase enzyme immunoassay (EIA) that utilizes a specific synthetic peptide as a substrate for Akt and a polyclonal antibody that recognizes the phosphorylated form of the substrate. The assay is designed for the analysis of Akt (1, 2, 3) activity in the solution phase.

Protein Kinase B (PKB) also known as Akt is a 57kDa serine/threonine kinase belonging to a subfamily termed the AGC protein kinases that include PKB isoforms, the cyclic-AMP-dependent PKA, SGK and p90RSK. There are three widely expressed isoforms of PKB (PKB-alpha, PKB-beta and PKB-gamma, also known as Akt1, Akt2 and Akt3, respectively) that mediate many of the downstream events controlled by PI3-kinase. Each isoform is composed of an N-terminal PI(3,4,5)P3- and PI(3,4)P2-binding Pleckstrin Homology (PH) domain and a C-terminal kinase catalytic domain. Activation of Akt/PKB involves a complex series of events. First, PI3-kinase-generated lipid products, PI(3,4,5)P3 and PI(3,4,)P2, recruit PKB to the plasma membrane through their affinity for the PH domain of PKB. At the plasma membrane, PKB is thought to undergo a conformational change and becomes activated by the phosphorylation of two residues, Thr-308 within the P-loop of the protein kinase domain and Ser-473 . PKB has been the subject of intense study due to its role in transducing signals from PI3-kinase that regulates cell survival and intermediary metabolism. PKB plays a key role in cancer progression by stimulating cell proliferation and inhibiting apoptosis and is suggested to be a key mediator of insulin signaling. These findings indicate that PKB is likely to be a hot drug target for the treatment of cancer, diabetes and stroke.

Citations: 14 View Online »

- Safe - non-radioactive colorimetric measurement of kinase activity
- Flexible - kinetic and end-point options available
- Fast - results in < 4.5 hours
- Efficient - only 30 µl diluted sample needed per well

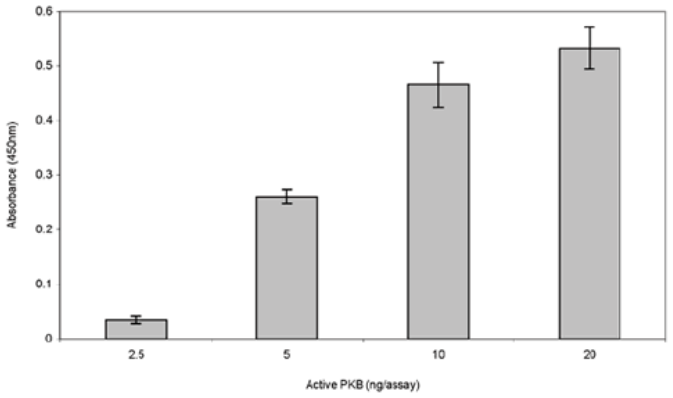
Ordering Information

Order Online »

ADI-EKS-400A	96 wells

Manuals, SDS & CofA

View Online »



Analysis of purified active PKB activity with EKS-400A. Varying quantities of purified active PKB were assayed using the PKB substrate microtiter plate. Assays were incubated for 60 min. at 30°C.

Handling & Storage

Use/Stability	Store all components at 4°C, except active kinase at -80°C.
Shipping	Dry Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	PKB, Protein kinase B
Application	Activity assay, Colorimetric detection
Application Notes	For the measurement of Akt in partially purified, purified, or crude enzyme preparations from any species.
Assay Time	4.5 hours
Compatibility	This product is compatible with the **Absorbance 96 Plate Reader**.
Contents	Microtiter plate, Antibody, Conjugate, Antibody dilution buffer, Kinase assay dilution buffer, ATP, Active Kinase, Wash buffer concentrate, TMB Substrate, Stop solution 2
Species Reactivity	Species independent
UniProt ID	P31749 (human Akt1), P31751 (human Akt2), Q9Y243 (human Akt3)

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