

Human AKT1 (RAC-PK Alpha) Protein Controls

Cat. # AKT12-C, **Human Akt-1** protein (phosphorylated, active) WB +Ve control, SIZE: 100 ul
Cat. # AKT13-C, **Human Akt-1** protein (inactive, non-phosphorylated) WB +Ve control, SIZE: 100 ul

Putative human homologs of the protooncogene v-akt of the acutely transforming retrovirus AKT8 have been cloned. These protein-serine/threonine kinase proteins have a catalytic domain closely related to both PKA and PKC and have been designated rac (related to A and C kinases), **pkb** (Protein kinase B) or **Akt**. RAC protein kinase family members feature pleckstrin homology (PH) domain at the amino terminus and a protein-serine/threonine kinase catalytic domain at the carboxy terminus. The Amino terminal domain (referred to as AH-Akt Homology domain) spans from 1-148 amino acids and contains the PH domain, a region found in diverse group of signaling proteins. The PH domain (amino acids 1-106) has been implicated in interactions with other proteins such as G-protein $\beta\gamma$ subunits, as well as phosphoinositides. The kinase domain is located between residues 148 to 411. These enzymes are activated by diverse ligands such as PGDF, EGF and basic FG in NIH 3T3, Rat-1 or Swiss-3T3 cells.

Source of AKTs:

Human AKT1, fusion protein ~60 kDa (his-tag at the N-terminus) was expressed in sf21 cell and purified >90%. This preparation was active (specific activity 300-1800 Units/mg). AKT1 was activated with MAPKAP kinase 2 and PDK1 and repurified. For **western blot +ve control (Cat # AKT12-C)**, it is supplied in SDS-PAGE sample buffer (reduced). This preparation of **AKT1 is phosphorylated but not active** in sample buffer. Load ~10 ul/lane to visualize with appropriate antibodies. Store at -20°C in suitable aliquots. Avoid repeated thawing or heating.

Human AKT1, fusion protein ~60 kDa (his-tag at the N-terminus) was expressed in sf21 cell and purified >90%. This preparation of **AKT1 is inactive or minimally active**. It has not been phosphorylated or de-phosphorylated. It may have some basal level of phosphorylation. For **western blot +ve control (Cat # AKT13-C)**, it is supplied in SDS-PAGE sample buffer (reduced). Load ~10 ul/lane to visualize with appropriate antibodies. Store at -20°C in suitable aliquots. Avoid repeated thawing or heating.

Suggested uses:

Both AKT12-C and AKT13-C are recommended for Western blots only to study the reactivity of antibodies with the phosphorylated or non-phosphorylated forms of AKT or to study crossreactivity of antibodies.

References: (1) Konishi et al. (1994) BBRC 205, 817-825; Coffey & Woodgett (1991) Eur. J. Biochem. 201, 475-481; Jones et al. (1991) PNAS USA 88, 4171-4175; Marte BM & Downward J (1997) TIBS 22, 355;