Technical Data Sheet

Purified Mouse anti-Akt (pY326)

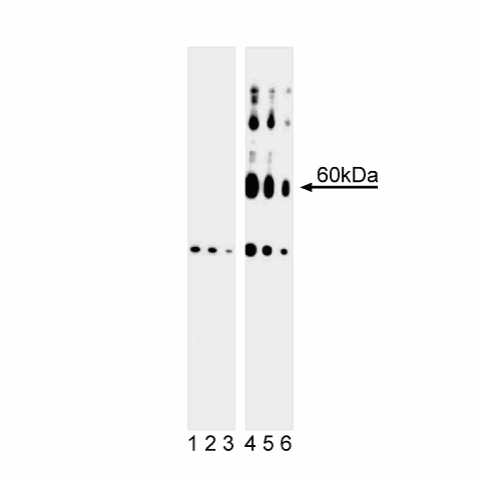
Product Information

Material Number:	**558384**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	K7-642
Immunogen:	Phosphorylated Human, Mouse, and Rat Akt1 Peptide
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Mouse
Target MW:	60 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Akt [also known as PKB (*P*rotein *K*inase *B*) or RAC-PK (*R*elated to the *A* and *C P*rotein *K*inases] is a family of serine/threonine kinases that contains a *P*leckstrin *H*omology (PH) domain. PH domains play important roles in signal transduction. There are three known isoforms of Akt in mammalian cells [Akt1 (α), Akt2 (β) and Akt3 (γ)]; they are thought to be regulated similarly. Akt is activated by insulin and growth factors by a mechanism involving phosphoinositide 3-OH kinase. Phosphoinositide 3-OH kinases products bind to the PH domain, resulting in translocation of Akt to the plasma membrane and activation of Akt to phospho-Akt by upstream kinases. Akt is phosphorylated within the activation loop at threonine 308, near the activation loop at tyrosines 315 and 326 (Y326), and in the C-terminus at serine 473. Phospho-Akt promotes cell survival by inhibiting apoptosis. Specifically, phospho-Akt1 has been shown to phosphorylate Bad, a member of the Bcl-2 family that promotes cell death. This phosphorylation results in the inactivation of the proapoptotic function of Bad. The Akt molecule is thus considered to link extracellular survival signals (growth factors) with the apoptotic machinery (Bad). Akt is also a key mediator of the metabolic effects of insulin. Additionally, Akt has been referred to as an oncogene because it has increased activity in a number of tumors.

The K7-642 antibody recognizes Akt phosphorylated at Y326.



Western blot analysis of AKT (pY326) in mouse embryonic fibroblasts. *Lysates from NIH/3T3 (lanes 1-3) and RSV-3T3 (lanes 4-6) cells were probed with purified mouse anti-AKT (pY326) monoclonal antibody at concentrations of 0.063 (lanes 1 and 4), 0.032 (lanes 2 and 5), and 0.016 µg/ml (lanes 3 and 6). AKT (pY326) is identified as a band of 60 kDa in the Rous sarcoma virus (RSV)-transformed cells.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

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Datta SR, Dudek H, Tao X, et al. Akt phosphorylation of BAD couples survival signals to the cell-intrinsic death machinery. *Cell.* 1997; 91:231-241.(Biology)

Ferrigno P, Silver PA. Regulated nuclear localization of stress-responsive factors: how the nuclear trafficking of protein kinases and transcription factors contributes to cell survival. *Oncogene.* 1999; 18(45):6129-6134.(Biology)

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