

Technical Data Sheet

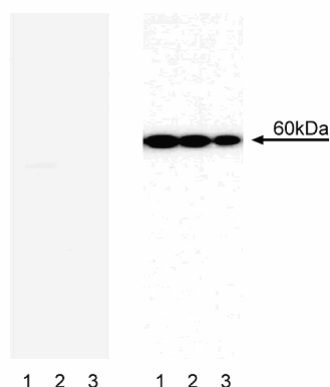
Purified Mouse Anti-Akt (pS473)**Product Information**

Material Number:	558368
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	J177-204.20
Immunogen:	Phosphorylated Peptide of the region including the serine 473 of human Akt
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Mouses Tested in Development: Human
Target MW:	60 kDa
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

Akt [also known as PKB (Protein kinase B) or RAC-PK (Related to the A and C kinases)] is a family of serine/threonine kinases that contains a pleckstrin homology (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 and the C-terminus at serine 473 (S473). 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 J177-204.20 antibody recognizes Akt phosphorylated at S473. This phosphorylation site is shared by all three isoforms of Akt.



Western blot analysis of AKT (pS473) in mouse embryonic fibroblasts. Lysates from control (left panel) and PDGF-BB-treated (Cat. No. 354051, right panel) NIH/3T3 cells were probed with purified mouse anti-AKT (pS473) monoclonal antibody at concentrations of 2.0, 1.0, and 0.5 $\mu\text{g/ml}$ (Lanes 1, 2, and 3, respectively). AKT (pS473) is identified as a band of 60 kDa in the treated 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
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Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
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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- 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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