Product Information Sheet

Polyclonal Anti- Murine thymoma viral (v-akt) oncogene homolog-1/2, AKT1/2 *(Magnetic Bead Conjugate)*

Catalogue No. PA1301-M

Lot No. 09H01

Ig type rabbit IgG

Size 100µg/vial

Specificity

Human, rat, mouse.

No cross reactivity with other proteins.

Recommended application

ImmunoPrecipitation

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminal of human AKT1/2, identical to the related rat and mouse sequence.

Purity

Immunogen affinity purified.

Contents

Each vial contains 1mg/ml Magnetic Bead in PBS, pH 7.2, 0.05mg NaN_3.

Storage

Store at 4˚C for frequent use.

Description

This Antagene antibody is immobilized by the covalent reaction of hydrazinonicotinamide-modified antibody with formylbenzamide-modified magnetic beads. It is useful for immunoprecipitation

BACKGROUND

AKT protein family, which members are also called protein kinases B (PKB) plays an important role in mammalian cellular signaling. In humans, there are three genes in the "Akt family": Akt1, Akt2, and Akt3. These genes code for enzymes that are members of the serine/threonine-specific protein kinase family. Akt1 is involved in cellular survival pathways, by inhibiting apoptotic processes. Akt1 is also able to induce protein synthesis pathways, and is therefore a key signaling protein in the cellular pathways that lead to skeletal muscle hypertrophy, and general tissue growth. Since it can block apoptosis, and thereby promote cell survival, Akt1 has been implicated as a major factor in many types of cancer. Akt (now also called Akt1) was originally identified as the oncogene in the transforming retrovirus, AKT8.[1] AKT8 was isolated by Stephen Staal in the laboratory of Wallace P. Rowe; he subsequently cloned v-akt and human AKT1 and AKT2 while on staff at the Johns Hopkins Oncology Center.[2] Akt2 is an important signaling molecule in the Insulin signaling pathway, it is required to induce glucose transport. Franke et al. (1995) show that AKT1 and AKT2 are activated by PDGF. The activation was rapid and specific, and it was abrogated by mutations in the Akt Pleckstrin homology (PH) domain. They identify that Akt is a novel target of PI 3-kinase and suggest that the Akt PH domain may be a mediator of PI 3-kinase signaling.[3]

REFERENCE

1. Staal SP, Hartley JW, Rowe WP (July 1977). "Isolation of transforming murine leukemia viruses from mice with a high incidence of spontaneous lymphoma". *Proc. Natl. Acad. Sci. U.S.A.* 74 (7): 3065–7.
2. Staal SP (July 1987). "Molecular cloning of the akt oncogene and its human homologues AKT1 and AKT2: amplification of AKT1 in a primary human gastric adenocarcinoma". *Proc. Natl. Acad. Sci. U.S.A.* 84 (14): 5034–7.
3. Franke, T. F.; Yang, S.-I.; Chan, T. O.; Datta, K.; Kaziauskas, A.; Morrison, D. K.; Kaplan, D. R.; Tsichlis, P. N. : The protein kinase encoded by the Akt proto-oncogene is a target of the PDGF-activated phosphatidylinositol 3-kinase. *Cell* 81: 727-736, 1995