

DESCRIPTION

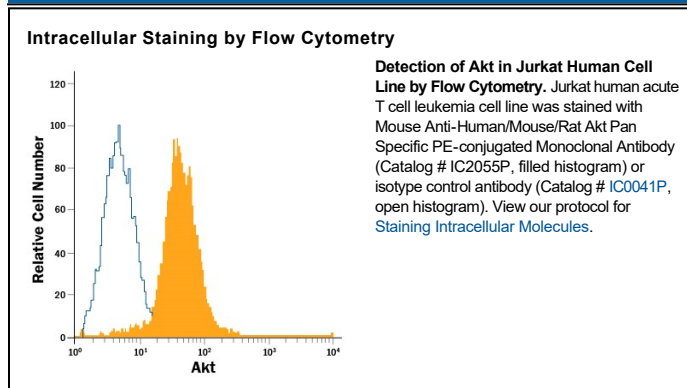
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat Akt in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 281046
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Akt1 Ser2-Ala480 Accession # P31749
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 µL/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Akt (also known as PKB) is a 55-65 kDa member of the AGC kinase family of molecules. There are three Akt isoforms (Akt1, 2 and 3) that are virtually equal in length (approximately 480 amino acids), show 81-82% amino acid (aa) sequence identity, and are the product of three distinct genes located on Ch14, Ch19 and Ch1, respectively. The "Akt" designation is based on an early mouse colony that was referred to as the "A" stock (or group), was inbred and generated a "k" strain, and which was ultimately recognized to contain a transforming, or "t" retrovirus that caused thymomas. All three Akts are Ser/Thr kinases that themselves are targets of the upstream PI3-kinase system. Although all three Akts are likely constitutively phosphorylated, 2-site Ser/Thr dual-phosphorylation by activated PI3-kinase appears to confer full enzyme activity. In addition to phosphorylation, the Akts are now known to undergo ubiquitination, SUMOylation, tyrosine phosphorylation, Lysine acetylation and O-GlcNAcylation. This can result in a highly variable SDS-PAGE MW determination, and suggests the existence of a very complex regulatory system. There are more than 130 substrates for the Akts. The principal difference between the Akts lies in their expression pattern and intracellular localization. Akt1 is expressed ubiquitously, while Akt2 is concentrated in insulin-sensitive cell types (skeletal muscle; hepatocytes; adipocytes) and Akt3 is found in neurons and select cell types. Full-length human Akt1 is 98% aa sequence identical to mouse Akt1.