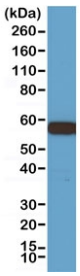
# Recombinant AKT1 Antibody [clone RM252] (R20273)

| Catalog No. | Formulation | Size |
|---|---|---|
| R20273-0.1ML | Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide | 100 ul |

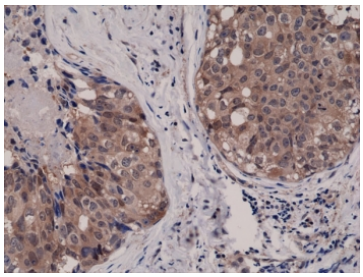
Recombinant RABBIT MONOCLONAL

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Predicted Reactivity** | Mouse, Rat, Bovine |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Recombinant Rabbit Monoclonal |
| **Isotype** | Rabbit IgG |
| **Clone Name** | RM252 |
| **Purity** | Protein A purified from animal origin-free supernatant |
| **UniProt** | P31749 |
| **Gene ID** | 207 |
| **Applications** | Immunohistochemistry (FFPE) : 1:500-1:1000 (1)<br>Western Blot : 1:1000-1:2000 |
| **Limitations** | This recombinant AKT1 antibody is available for research use only. |




Western blot testing of 293 cell lysate with recombinant AKT1 antibody at 1:1000.
Predicted molecular weight ~56 kDa.



IHC testing of FFPE human breast cancer tissue with recombinant AKT1 antibody at 1:1000.

## Description

The Recombinant AKT1 antibody is a recombinant reagent engineered to detect AKT1, a serine/threonine kinase also known as protein kinase B alpha. AKT1 is a central regulator of cell growth, survival, metabolism, and angiogenesis, functioning as a core component of the PI3K/AKT/mTOR signaling pathway. Upon activation by phosphoinositide-dependent kinase 1 (PDK1) and phosphorylation at threonine 308 and serine 473, AKT1 phosphorylates a wide range of downstream substrates that control apoptosis, protein synthesis, and glucose metabolism. The Recombinant AKT1 antibody enables researchers to measure overall AKT1 protein levels, complementing phospho-specific reagents that detect pathway activation.

AKT1 is encoded by the AKT1 gene on chromosome 14q32. Its structure includes an N-terminal pleckstrin homology domain that mediates membrane recruitment, a central kinase domain, and a C-terminal regulatory domain. This modular design allows AKT1 to integrate signals from growth factors, insulin, and cytokines. Dysregulation of AKT1, often through mutations or pathway hyperactivation, is implicated in cancer, metabolic disorders, and cardiovascular disease. The Recombinant AKT1 antibody provides consistent recognition of conserved epitopes, ensuring robust detection in cell lines, tissues, and experimental models.

In western blotting, the Recombinant AKT1 antibody detects the total pool of AKT1 protein, enabling comparisons across conditions where phosphorylation state may vary. In immunofluorescence, it highlights cytoplasmic and nuclear localization patterns, reflecting dynamic redistribution during signaling. In immunohistochemistry, the antibody identifies AKT1 expression in tissue sections, supporting studies of tumor progression, metabolism, and tissue-specific signaling. Recombinant production ensures high reproducibility between batches, reducing variability seen with hybridoma-derived antibodies.

The Recombinant AKT1 antibody is widely used in oncology research, as hyperactivation of PI3K/AKT signaling promotes proliferation and survival in many tumor types. It is also applied in metabolic studies, where AKT1 regulates insulin signaling, glucose uptake, and glycogen storage. In neuroscience, AKT1 contributes to neuronal survival and synaptic plasticity, making it relevant in both developmental and disease contexts. Synonym phrases such as recombinant protein kinase B alpha antibody, recombinant PKB alpha antibody, and recombinant AKT1 signaling antibody broaden accessibility for researchers working under alternate nomenclature.

By providing validated and reproducible detection, the Recombinant AKT1 antibody supports accurate study of cell signaling, metabolism, and disease mechanisms. NSJ Bioreagents supplies this reagent under strict quality control standards, ensuring reliable performance in western blotting, immunofluorescence, and immunohistochemistry. With specificity for AKT1, the Recombinant AKT1 antibody is an indispensable tool for advancing research into PI3K/AKT/mTOR signaling and its role in cancer, metabolism, and beyond.

## Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant AKT1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

## Immunogen

A peptide corresponding to the C-terminus of human Akt1 was used as the immunogen for this recombinant AKT1 antibody.

## Storage

Store the recombinant AKT1 antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).