

Mouse Anti-AKT1 [AKT1/2552] (Prognostic Marker for Neuroendocrine Tumors): MC0560, MC0560RTU7

Intended Use: For Research Use Only

Description: Recognizes a protein of 62kDa, which is identified as AKT1. The serine/threonine kinase Akt family contains several members, including Akt1 (also designated PKB or RacPK), Akt2 (also designated PKB tyrosine residues 740 and 751, which bind the subunit of the phosphatidylinositol 3-kinase (PI 3-kinase) complex. Activation of Akt1 by insulin or insulin-growth factor-1 (IGF-1) results in phosphorylation of both Thr 308 and Ser 473. Akt proteins become phosphorylated and activated in insulin/IGF-1-stimulated cells by an upstream kinase(s), and the activation of Akt1 and Akt2 is inhibited by the PI kinase inhibitor wortmannin. The main function of AKT is to control inhibition of apoptosis and promote cell proliferation. Survival factors can activate AKT Ser473 and Thr308 phosphorylation sites in a transcription-independent manner, resulting in the inactivation of apoptotic signaling transduction through the tumor suppressor PTEN, an antagonist to PI3-K. PTEN exerts enzymatic activity as a phosphatidylinositol-3,4,5-trisphosphate (PIP3) phosphatase, opposing PI3K activity by decreasing availability of PIP3 to proliferating cells, leading to overexpression and inappropriate activation of AKT noted in many types of cancer.

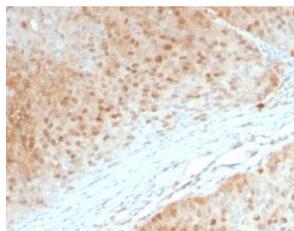
Specifications:

Clone: AKT1/2552
 Source: Mouse
 Isotype: IgG2b/k
 Reactivity: Human
 Localization: Cytoplasm, nucleus, membrane
 Formulation: Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN3)
 Storage: Store at 2°- 8°C
 Applications: IHC, WB
 Package:

| Description | Catalog No. | Size |
|-------------------------------|-------------|------|
| AKT1 [AKT1/2552] Concentrated | MC0560 | 1 ml |
| AKT1 [AKT1/2552] Prediluted | MC0560RTU7 | 7 ml |

IHC Procedure*:

Positive Control Tissue: Pancreas, cervical ca., PDGF-treated NIH/3T3 cells. HeLa cell lysates
 Concentrated Dilution: 50-200
 Pretreatment: Tris EDTA pH9.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C
 Incubation Time and Temp: 30-60 minutes @ RT
 Detection: Refer to the detection system manual
 * Result should be confirmed by an established diagnostic procedure.



FFPE human pancreas stained with anti-AKT1 using DAB

References:

1. Possible activation of NRF2 by Vitamin E/Curcumin against altered thyroid hormone induced oxidative stress via NFkB/AKT/mTOR/KEAP1 signalling in rat heart. Mishra, P., et al.. Sci Rep, 9(1), 7408, 2019.
2. Hematopoietic Akt2 deficiency attenuates the progression of atherosclerosis. Rotllan, N., et al. Faseb j, 29(2), 597-610, 2015.
3. Critical analysis of simultaneous blockage of histone deacetylase and multiple receptor tyrosine kinase in the treatment of prostate cancer. Wedel, S., et al Prostate, 71(7), 722-735, 2011.

Doc. 100-MC0560
Rev. A