CELL APPLICATIONS, INC.

TNFAIP1 Antibody

Cat. No. CA1305

Applications:	**WB, IHC**
Detected MW:	**38 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Rabbit IgG**

BACKGROUND

Tumor necrosis factor, alpha-induced protein 1 (TNFAIP1, originally termed B12) is a protein which can be induced by tumor necrosis factor alpha (TNF-alpha) and interleukin-6 (IL-6). TNFAIP1 may play roles in DNA synthesis, DNA repair, cell apoptosis and human diseases. In mammals, TNFAIP1 shares high similarity to PDIP1 and KCTD10 in amino acid sequence. All of the three proteins contain a conserved BTB/POZ domain at the N-terminus and a PCNA binding motif (QTKV-EFP) at the C-terminus. LikePDIP1 and KCTD10, rat TNFAIP1 can interact with PCNA and small subunit of polymerase d (p50) and stimulate polymerase d activity in the presence of PCNA. These findings suggest that TNFAIP1 may play roles in the TNF-alpha signal pathway and DNA synthesis. In addition, TNFAIP1 may involve in the process of developing AD, the innate immunity against HBV, and the apoptosis of HeLa cell. Recently, there was reported that Sp1 is implicated in the control of basal TNFAIP1 gene expression.[1] These studies indicate that TNFAIP1 may play critical roles in developmental and disease process. The exact physiological function and the acting mechanism of TNFAIP1 have not been reported. It is clear that the interaction of proteins is a major mechanism in the regulation of various fundamental cellular processes. RhoB, a tumor suppressor, has emerged as an interesting cancer target, and extensive studies aimed at understanding its role in apoptosis have been performed. The interaction between RhoB and TNFAIP1 was demonstrated in vivo through coimmunoprecipitation studies and in vitro binding assays. The partial colocalization of RhoB and TNFAIP1 in endosomes suggests that RhoB-TNFAIP1 interactions may have a functional role in apoptosis. TNFAIP1 elicited proapoptotic activity, while simultaneous expression of RhoB and TNFAIP1 resulted in a dramatic increase in apoptosis in HeLa cells. Moreover, it was shown that RhoB interacts with TNFAIP1 to regulate apoptosis via a SAPK/JNK-mediated signal transduction mechanism.[2] In addition, casein kinase 2 (CK2b) was also identified as a protein partner of TNFAIP1 to phosphorylate TNFAIP1 *in vitro* and *in vivo* as well. The phosphorylated-TNFAIP1 has more distribution in nucleus and enhances its interaction with PCNA were also demonstrated.[3]

References:

1. Liu M. et al: Mol. Biol. Rep.37:2969–705, 2010
2. Kim, D.M. et al: Int. J. Cancer 125:2520-7, 2009
3. Yang, L. et al: Mol. Biol. Rep.37:2967–73, 2010

TECHNICAL INFORMATION

Source:
TNFAIP1 Antibody is a rabbit antibody raised against a short peptide from human TNFAIP1 sequence.

Specificity and Sensitivity:
This antibody detects endogenous levels of TNFAIP1 proteins without cross-reactivity with other related proteins.

Storage Buffer: PBS and 30% glycerol

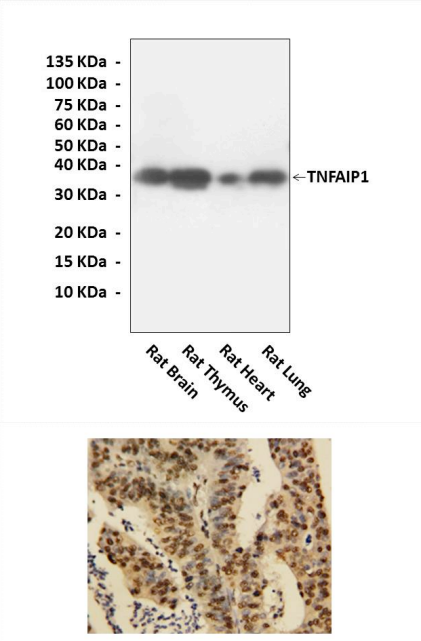
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	1:50-200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Western Blot detection of TNFAIP1 proteins in various cell lysates using TNFAIP1 Antibody. **Bottom:** This antibody stains paraffin-embedded human rectal cancer tissue in immunohistochemical staining.