Product Datasheet

TK1 Antibody

Catalog No: #32920

Package Size: #32920-1 50ul #32920-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

Product Name	TK1 Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were purified by affinity purification using immunogen.
Applications	WB IHC IF
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of total TK1 protein.
Immunogen Type	Recombinant Protein
Immunogen Description	Recombinant protein of human TK1.
Target Name	TK1
Other Names	TK2;
Accession No.	Swiss-Prot:P04183NCBI Gene ID:7083
Uniprot	P04183
GeneID	7083;
SDS-PAGE MW	25KD
Concentration	1.0mg/ml
Formulation	Supplied at 1.0mg/mL in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C

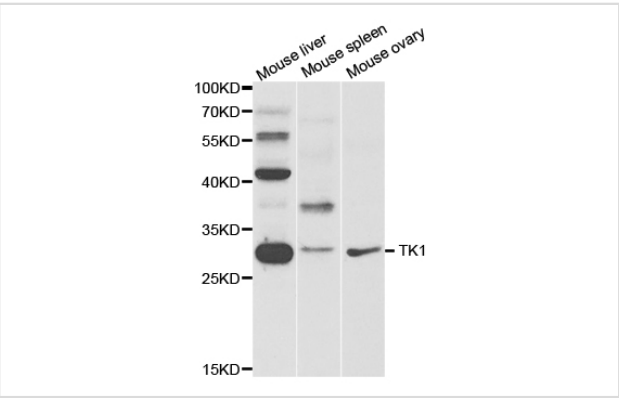
Application Details

Western blotting: 1:500 - 1:2000

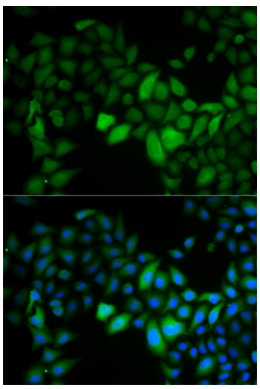
Immunohistochemistry: 1:50 - 1:200

Immunofluorescence: 1:50 - 1:200

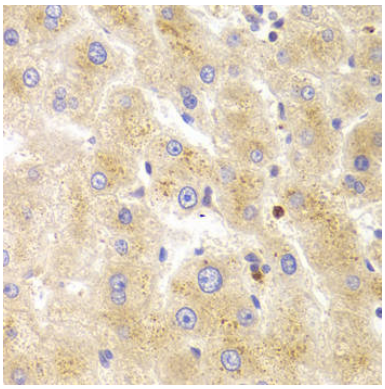
Images



Western blot analysis of extracts of various cell lines, using TK1 antibody.



Immunofluorescence analysis of HeLa cell using TK1 antibody. Blue: DAPI for nuclear staining.



Immunohistochemistry of paraffin-embedded Human liver using TK1 antibody at dilution of 1:100 (x400 lens).

Background

Thymidine kinases play a critical role in generating the DNA synthetic precursor deoxythymidine triphosphate (dTTP) by catalyzing the phosphotransfer of phosphate from ATP to deoxythymidine (dT) and thymidine (T) in the cell. There are two known thymidine kinases, cytoplasmic thymidine kinase 1 (TK1) and mitochondrial thymidine kinase 2 (TK2) (1,2). Unlike TK2, which is not modulated by the cell cycle, TK1 expression and activity is regulated in a cell cycle-dependent manner, accumulating during G1-phase to peak levels in S-phase before being degraded prior to cell division (3,4). Stability, but not activity, may be regulated via phosphorylation of TK1 at Ser13 by Cdc2 and/or Cdk2, but the precise mode of regulation remains elusive (5). These observations indicate that TK1 might be a useful marker of cell proliferation; however, recent studies have shown that TK1 plays a more significant role in the DNA damage response (6). Genotoxic stress promotes increased TK1 expression and kinase activity resulting in reduced cellular apoptosis and enhanced DNA repair efficiency (6). More importantly, numerous studies show that TK1 expression and activity are upregulated during neoplasia and disease progression in humans, and increased serum levels of TK1 correlate with poor prognosis and decreased survival in patients with various types of advanced tumors (7-12).

Note: This product is for in vitro research use only