TK1 Conjugated Antibody

Catalog No: #C32920

Package Size: #C32920-AF350 100ul #C32920-AF405 100ul #C32920-AF488 100ul #C32920-AF555 100ul #C32920-AF594 100ul #C32920-AF647 100ul #C32920-AF680 100ul #C32920-AF750 100ul #C32920-Biotin 100ul

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Description

Product Name	TK1 Conjugated Antibody
Host Species	Rabbit
Clonality	Polyclonal
Species Reactivity	Hu Ms Rt
Specificity	The antibody detects endogenous level of total TK1 protein.
Immunogen Description	Recombinant protein of human TK1.
Conjugates	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Other Names	TK2
Accession No.	Swiss-Prot#:P04183NCBI Gene ID:7083
Uniprot	P04183
GeneID	7083;
Excitation Emission	AF350: 346nm/442nm AF405: 401nm/421nm AF488: 493nm/519nm AF555: 555nm/565nm AF594: 591nm/614nm AF647: 651nm/667nm AF680: 679nm/702nm AF750: 749nm/775nm
Calculated MW	25
Formulation	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Storage	Store at 4°C in dark for 6 months

Application Details

Suggested Dilution:

AF350 conjugated: most applications: 1: 50 - 1: 250

AF405 conjugated: most applications: 1: 50 - 1: 250

AF488 conjugated: most applications: 1: 50 - 1: 250

AF555 conjugated: most applications: 1: 50 - 1: 250

AF594 conjugated: most applications: 1: 50 - 1: 250

AF647 conjugated: most applications: 1: 50 - 1: 250

AF680 conjugated: most applications: 1: 50 - 1: 250

AF750 conjugated: most applications: 1: 50 - 1: 250

Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1: 50 - 1: 1,000

Product Description

Antibodies were purified by affinity purification using immunogen.

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