Certificate of Analysis
TEK (TIE2) Y897S, 10 µg

Recombinant human TIE2 (Y897S) expressed in insect cells

Part Number: A30519
Lot Number: 2972576
Immediate Storage: -80°C
Shipping Conditions: dry ice

5781 Van Allen Way
Carlsbad, CA 92008
Phone: 760.603.7200
www.thermofisher.com

Description:

Recombinant human TEK (TIE2) Y897S (771 - end) was expressed in insect cells using a N−terminal GST tag.

TEK (TIE2) Y897S receptor tyrosine kinase is expressed principally on vascular endothelium. Disrupting TEK Y897S function in mice results in embryonic lethality with defects in embryonic vasculature, suggests a role in blood vessel maturation and maintenance. Angiopoietin-1 is a secreted growth factor that binds to and activates the TEK receptor tyrosine kinase. SHP2 and GRB2 are recruited to the activated TEK kinase domain and are part of the cellular responses that mediate TEK function. TEK expression is upregulated in the endothelium of vascular "hot spots" in human breast cancer specimens. However, TEK is also overexpressed in areas of active angiogenesis in normal tissues.

Accession Number:

The gene accession number for TEK (TIE2) Y897S is NP_000450.2.

Specific Activity:

44 nmoles of ADP formed per min per mg of total protein using an ADP accumulation assay.

Concentration:

0.1 mg/mL as determined by densitometry of the kinase gel band(s).

Calculated **1,500 nM**.

Aliases:

TIE-2, TEK, VMCM, VMCM1, CD202B

Storage and Handling:

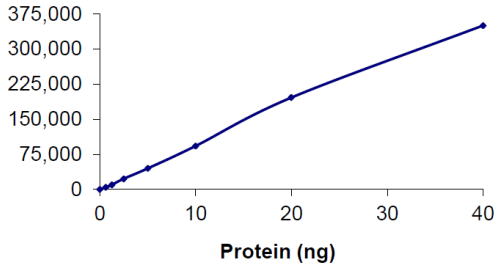
For maximum recovery please spin prior to use. Unless noted below, aliquots of the 5 ug, 10ug and 20ug sizes of kinase are not recommended as materials can be used in original packaging until exhausted. For larger sizes, the number of freeze/thaws may be reduced by preparing aliquots, aliquots below 20 µL are not recommended. **Please never store a kinase diluted.** If properly stored at −80°C, this product is guaranteed for 6 months from date of purchase.

Storage Buffer:

50 mM Tris-HCl (pH 7.5), 150 mM NaCl, 10 mM Glutathione, 0.1 mM EDTA, 0.25 mM DTT, 0.1 mM PMSF and 25% Glycerol.

QUALITY ASSURANCE

TEK (TIE2) Y897S Activity Graph



Dilution Buffer:

40 mM Tris-HCl (pH 7.4), 20 mM $MgCl_2$, 2.5 mM $MnCl_2$, 50 µM DTT and 0.1 mg/mL BSA.

Assay Conditions:

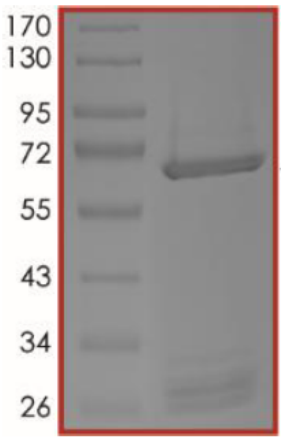
TEK (TIE2) Y897S was pre-diluted in enzyme dilution buffer and assayed in 40 mM Tris-HCl (pH 7.4), 20 mM $MgCl_2$, 2.5 mM $MnCl_2$, 50 µM DTT and 0.1 mg/mL BSA with 25 µM ATP in an ADP accumulation assay using 200 µg/mL poly [Glu, Tyr] 4:1 substrate for 40 minutes at room temperature.

Gel Information for TEK (TIE2) Y897S

Page Description: Run on an SDS-PAGE gel and stained with Coomassie®.

Lane 1: Molecular Weight markers as labeled.

Lane 2: TEK (TIE2) Y897S



Purity:

> 80% as determined by a Coomassie® blue stained SDS-PAGE gel, excluding endogenous GST.

Molecular Weight:

66.7 kDa. Calculated from the protein sequence(s).

Protein sequence alignment with reference sequence(s)

GenBank Accession Number: NP_000450.2

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  1 MSPILGYWKIKGLVQPTRLLLEYLEEKYEEHLYERDEGDKWRNKKFELGLEFPNLPYYIDGDVKLTQSMAIIRYIADKHNMLGGCPKERAEISMLEGAVL GST
  1 MSPILGYWKIKGLVQPTRLLLEYLEEKYEEHLYERDEGDKWRNKKFELGLEFPNLPYYIDGDVKLTQSMAIIRYIADKHNMLGGCPKERAEISMLEGAVL Life TIE2 (Y897S)
  1 ------------------------------------------------------------------------------------------------------ NP_000450.2

101 DIRYGVSRIAYSKDFETLKVDFLSKLPEMLKMFEDRLCHKTYLNGDHVTHPDFMLYDALDVVLYMDPMCLDAFPKLVCFKKRIEAIPQIDKYLKSSKYIA
101 DIRYGVSRIAYSKDFETLKVDFLSKLPEMLKMFEDRLCHKTYLNGDHVTHPDFMLYDALDVVLYMDPMCLDAFPKLVCFKKRIEAIPQIDKYLKSSKYIA
  1 ------------------------------------------------------------------------------------------------------

201 WPLQGWQATFGGGDHPPKSD
201 WPLQGWQATFGGGDHPPKSDLVPRGSQLKRANVQRRMAQAFQNVREEPAVQFNSGTLALNRKVKNNPDPTIYPVLDWNDIKFQDVIGEGNFGQVLKARIK
  1 --------------------------QLKRANVQRRMAQAFQNVREEPAVQFNSGTLALNRKVKNNPDPTIYPVLDWNDIKFQDVIGEGNFGQVLKARIK

220
301 KDGLRMDAAIKRMKEYASKDDHRDFAGELEVLCKLGHHPNIINLLGACEHRGSLYLAIEYAPHGNLLDFLRKSRVLETDPAFAIANSTASTLSSQQLLHF
 75 KDGLRMDAAIKRMKEYASKDDHRDFAGELEVLCKLGHHPNIINLLGACEHRGYLYLAIEYAPHGNLLDFLRKSRVLETDPAFAIANSTASTLSSQQLLHF

220
401 AADVARGMDYLSQKQFIHRDLAARNILVGENYVAKIADFGLSRGQEVYVKKTMGRLPVRWMAIESLNYSVYTTNSDVWSYGVLLWEIVSLGGTPYCGMTC
175 AADVARGMDYLSQKQFIHRDLAARNILVGENYVAKIADFGLSRGQEVYVKKTMGRLPVRWMAIESLNYSVYTTNSDVWSYGVLLWEIVSLGGTPYCGMTC

220
501 AELYEKLPQGYRLEKPLNCDDEVYDLMRQCWREKPYERPSFAQILVSLNRMLEERKTYVNTTLYEKFTYAGIDCSAEEAA
275 AELYEKLPQGYRLEKPLNCDDEVYDLMRQCWREKPYERPSFAQILVSLNRMLEERKTYVNTTLYEKFTYAGIDCSAEEAA
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* highlighted residues denote differences from the reference protein sequence(s).

Chevohn Joseph, Director, Quality Date: 15/Jul/2024