

## ProQinase™ IRAK4 (GST-HIS-tag)

interleukin-1 receptor associated kinase 4

Recombinant Human Active Protein Kinase

HGNC Symbol: IRAK4

Synonyms: REN64; NY-REN-64; IPD1

Product No.: 0268-0000-1

Lot: 005

**Description:** Human IRAK4, C-terminal fragment, amino acids A<sub>104</sub>-S<sub>460</sub> (as in [NCBI/Protein](#) entry NP\_057207.2), N-terminally fused to GST-HIS<sub>6</sub> and a Thrombin cleavage site, expressed in Sf9 insect cells

**Product identity:** IRAK4 Lot 005, was confirmed as IRAK4 by mass spectroscopy LC-ESI-MS/MS

**Theoretical MW**<sub>Fusion Protein</sub>: 69,898 Da

**Expression host:** Sf9 insect cells

**Purification:** GST-Affinity Chromatography

**Activation:** This kinase was not activated by special procedures

**Storage buffer:** 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 4 mM reduced glutathione, 20 % glycerol

**Storage temperature:** -80°C

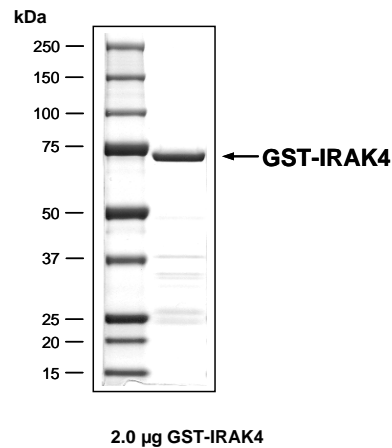
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10µl are not advisable. Avoid repeated freeze-thaw cycles!

**Protein concentration:** 0.213 µg/µl  
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

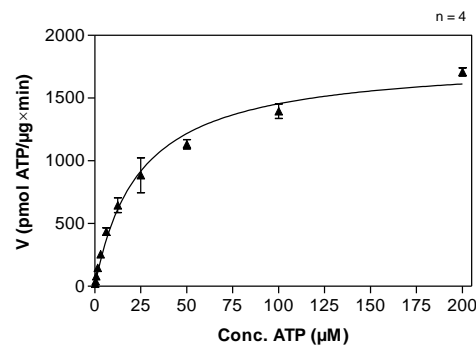
### Biochemical Parameters:

Specific kinase activity (P<sub>i</sub> transfer): 1809 pmol/µg x min  
ATP-K<sub>M</sub>: 24 µM

### IRAK4 Lot 005: Coomassie stain



### IRAK4 Lot 005: Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



### Determination of K<sub>M</sub> value & Specific activity:

- Assay conditions:
  - 60 mM HEPES-NaOH, pH 7.5
  - 3 mM MgCl<sub>2</sub>
  - 3 mM MnCl<sub>2</sub>
  - 3 µM Na-orthovanadate
  - 1.2 mM DTT
  - 50 µg/ml PEG<sub>20,000</sub>
  - ATP (variable)
  - Substrate: Histon H2B 100 µg/ml
  - Kinase: 0.4 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

## ProQinase™ IRAK4 (GST-HIS-tag)

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GST-IRAK4 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSM	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	<b>LVPRG</b> PGLD	GICSIEEFTM	<b>AVPKTANTLP</b>	<b>SKEAITVQOK</b>	<b>QMPFCDKDRT</b>	<b>LMPVQNLEQ</b>	300
301	<b>SYMPDSSSP</b>	<b>ENKSLEVSDT</b>	<b>RFHSFSFYEL</b>	<b>KNVTNNFDER</b>	<b>PISVGGNKM</b>	<b>EGGFGVVYKG</b>	360
361	<b>YVNNTTVA</b>	<b>KLAAMVDITT</b>	<b>EELKQQFDQE</b>	<b>IKVMAKQHE</b>	<b>NLVELLGFSS</b>	<b>DGDDLCLVYV</b>	420
421	<b>YMPNGSL</b>	<b>LSCLDGTPL</b>	<b>SWHMRCKIAQ</b>	<b>GAANGINFLH</b>	<b>ENHHIHRDIK</b>	<b>SANILLDEAF</b>	480
481	<b>TAKISDFGLA</b>	<b>RASEKFAQTV</b>	<b>MTSRIVGTTA</b>	<b>YMAPEALRGE</b>	<b>ITPKSDIYSF</b>	<b>GVVLEIITG</b>	540
541	<b>LPAVDEHREP</b>	<b>QLLLDIKEEI</b>	<b>EDEEKTIEDY</b>	<b>IDKKNMDADS</b>	<b>TSVEAMYSVA</b>	<b>SQCLHEKKNK</b>	600
601	<b>RPDIKKVQQL</b>	<b>LQEMTAS</b>					660

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: IRAK4 fragment

IRAK4 wt <sup>1</sup> Amino Acid Sequence							
1	MNKPITPSTY	VRCLNVGLIR	KLSDFIDPQE	GWKKLAVAIAK	KPSGDDRYNQ	FHIRRFEALL	60
61	QTGKSPTSEL	LFDWGTNCT	VGDLVDLLIQ	NEFFAPASLL	LPD <b>AVPKTAN</b>	<b>TLPSKEAITV</b>	120
121	<b>QOKQMPFCDK</b>	<b>DRTLMPVQN</b>	<b>LEQSYMPDSD</b>	<b>SSPENKSLEV</b>	<b>SDTRFHSFSF</b>	<b>YELKNVTNNF</b>	180
181	<b>DERPISVGGN</b>	<b>KMGEFFGVV</b>	<b>YKGYVNNTV</b>	<b>AVKKLAAMVD</b>	<b>ITTEELKQOF</b>	<b>DQEIKVMAKC</b>	240
241	<b>QHENVLELLG</b>	<b>FSSDGDDLCL</b>	<b>VYVYMPNGSL</b>	<b>LDRLSCLDGT</b>	<b>PPLSWHMRCK</b>	<b>IAQGAANGIN</b>	300
301	<b>FLHENHHIHR</b>	<b>DIKSANILLD</b>	<b>EAF TAKISDF</b>	<b>GLARASEKFA</b>	<b>QTVMTSRIVG</b>	<b>TTAYMAPEAL</b>	360
361	<b>RGEITPKSDI</b>	<b>YSFGVLEI</b>	<b>ITGLPAVDEH</b>	<b>REPQLLLDIK</b>	<b>EEIEDEEKT</b>	<b>EDYIDKMMND</b>	420
421	<b>ADSTSVEAMY</b>	<b>SVASQCLHEK</b>	<b>KNKRPDIKVV</b>	<b>QQLLQEMTAS</b>			480

**blue**: IRAK4 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_057207.2