# Thymidine kinase 1/TK1 Protein, Human (HEK293, His)

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| **Cat. No.:** | HY-P71074 |
| **Synonyms:** | Thymidine kinase; cytosolic; TK1 |
| **Species:** | Human |
| **Source:** | HEK293 |
| **Accession:** | P04183 (M1-N234) |
| **Gene ID:** | 7083 |
| **Molecular Weight:** | Approximately 29.58 kDa |

## PROPERTIES

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| **AA Sequence** | M S C I N L P T V L P G S P S K T R G Q I Q V I L G P M F S G K S T E L M R R V<br>R R F Q I A Q Y K C L V I K Y A K D T R Y S S S F C T H D R N T M E A L P A C L<br>L R D V A Q E A L G V A V I G I D E G Q F F P D I V E F C E A M A N A G K T V I<br>V A A L D G T F Q R K P F G A I L N L V P L A E S V V K L T A V C M E C F R E A<br>A Y T K R L G T E K E V E V I G G A D K Y H S V C R L C Y F K K A S G Q P A G P<br>D N K E N C P V P G K P G E A V A A R K L F A P Q Q I L Q C S P A N |
| **Biological Activity** | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| **Appearance** | Solution. |
| **Formulation** | Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 150 mM NaCl, 1 mM DTT, 2 mM EDTA, 10% Glycerol, pH 7.5. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | N/A |
| **Storage & Stability** | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | Shipping with dry ice. |

## DESCRIPTION

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| **Background** | The FCGRT-B2M Heterodimer Protein serves as a cell surface receptor facilitating the transfer of passive humoral immunity from mother to newborn. It selectively binds to the Fc region of monomeric immunoglobulin gamma, particularly in milk, enabling the uptake of IgG at the apical surface of intestinal epithelium. The formed FcRn-IgG complexes are then transcytosed across the epithelium, releasing IgG into blood or tissue fluids. Beyond early life, this receptor plays a crucial role in maintaining effective humoral immunity by recycling IgG and extending its half-life in circulation. The mechanism |

involves monomeric IgG binding to FcRn in acidic endosomes, leading to the recycling of IgG to the cell surface and subsequent release into the circulation. Notably, FCGRT-B2M Heterodimer also regulates the homeostasis of albumin, the most abundant circulating protein, highlighting its multifaceted role in immune and metabolic processes. The FcRn complex consists of two subunits: p51 and p14, the latter equivalent to beta-2-microglobulin, forming an MHC class I-like heterodimer. Additionally, it interacts with albumin, contributing to the regulation of albumin homeostasis.



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