

DYRK3 Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	REDK;RED;DYRK5;dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3;hYAK3-2
Protein Construction:	A DNA sequence encoding the human DYRK3 isoform 1 (O43781-1) (Met 1-Ser 588) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O43781-1
Molecular Weight:	93.5 kDa (predicted); 80 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 22 nmol/min/mg using synthetic DYRKtide peptide (RRRFRPASPLRGPPK) as substrate.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 0.5 mM PMSF, 10% gly, pH 8.0.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Dual specificity tyrosine-phosphorylation-regulated kinase 3, also known as Regulatory erythroid kinase, REDK and DYRK3, is a nucleus protein which belongs to the protein kinase superfamily, CMGC Ser/Thr protein kinase family and MNB/DYRK subfamily. DYRKs are an emerging family of dual-specificity kinases that play key roles in cell proliferation, survival, and development. DYRK3 contains one protein kinase domain. Isoform 1 and isoform 2 of DYRK3 are highly expressed in testis and in hematopoietic tissue such as fetal liver, and bone marrow. Isoform 2 of DYRK3 is the predominant form in testis. Isoform 1 of DYRK3 is the predominant form in fetal liver and bone marrow. Isoform 1 and isoform 2 are present at low levels in heart, pancreas, lymph node, and thymus. DYRK3 is

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a negative regulator of EPO-dependent erythropoiesis. It may place an upper limit on red cell production during stress erythropoiesis. DYRK3 inhibits cell death due to cytokine withdrawal in hematopoietic progenitor cells. It may also act by regulating CREB/CRE signaling. DYRK3 proved to effectively inhibit NFAT (nuclear factor of activated T cells) transcriptional response pathways and to co-immunoprecipitate with NFATc3. DYRK3 attenuates (and possibly apports) red cell production selectively during anemia.

Reference

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