Recombinant Human DYRK3 Protein (G2-S588), Tag Free

Cat. No. DYRK3-0400H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GG-DYRK3(G2-S588 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	G2-S588
Description	Dual-specificity protein kinase that promotes disassembly of several types of membraneless organelles during mitosis, such as stress granules, nuclear speckles and pericentriolar material. Dual-specificity tyrosine-regulated kinases (DYRKs) autophosphorylate a critical tyrosine residue in their activation loop and phosphorylate their substrate on serine and threonine residues (). Acts as a central dissolvase of membraneless organelles during the G2-to-M transition, after the nuclear-envelope breakdown: acts by mediating phosphorylation of multiple serine and threonine residues in unstructured domains of proteins, such as SRRM1 and PCM1. Does not mediate disassembly of all membraneless organelles: disassembly of P-body and nucleolus is not regulated by DYRK3. Dissolution of membraneless organelles at the onset of mitosis is also required to release mitotic regulators, such as ZNF207, from liquid-unmixed organelles where they are sequestered and keep them dissolved during mitosis. Regulates mTORC1 by mediating the dissolution of stress granules: during stressful conditions, DYRK3 partitions from the cytosol to the stress granule, together with mTORC1 components, which prevents mTORC1 signaling. When stress signals are gone, the kinase activity of DYRK3 is required for the dissolution of stress

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	granule and mTORC1 relocation to the cytosol: acts by mediating the phosphorylation of the mTORC1 inhibitor AKT1S1, allowing full reactivation of mTORC1 signaling. Also acts as a negative regulator of EPO-dependent erythropoiesis: may place an upper limit on red cell production during stress erythropoiesis. Inhibits cell death due to cytokine withdrawal in hematopoietic progenitor cells. Promotes cell survival upon genotoxic stress through phosphorylation of SIRT1: this in turn inhibits p53/TP53 activity and apoptosis.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	DYRK3 dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3 [Homo sapiens (human)]
Official Symbol	DYRK3

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Synonyms	DYRK3; dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3; dual specificity tyrosine-phosphorylation-regulated kinase 3; dual specificity tyrosine (Y) phosphorylation regulated kinase 5; hYAK3 2; protein kinase Dyrk3; RED; REDK; regulatory erythroid kinase; dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 5; DYRK5; hYAK3-2;
Gene ID	8444
mRNA Refseq	NM_001004023
Protein Refseq	NP_001004023
MIM	603497
UniProt ID	O43781

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