FAM20C Protein, Human (HEK293, Myc, His)

Cat. No.:	HY-P71677
Synonyms:	C76981; Dentin matrix protein 4; Family with sequence similarity 20 member C; GEF CK; Golgi enriched fraction casein kinase; Protein FAM20C; RNS
Species:	Human
Source:	HEK293
Accession:	Q8IXL6 (93D-584R)
Gene ID:	56975
Molecular Weight:	Approximately 61.4 kDa

PROPERTIES

AA Sequence	D F S S D P S S N L S S H S L E K L P P A A E P A E R A L R G R D P G A L R P H D P A H R P L L R D P G P R R S E S P P G P G G D A S L L A R L F E H P L Y R V A V P P L T E E D V L F N V N S D T R L S P K A A E N P D W P H A G A E G A E F L S P G E A A V D S Y P N W L K F H I G I N R Y E L Y S R H N P A I E A L L H D L S S Q R I T S V A M K S G G T Q L K L I M T F Q N Y G Q A L F K P M K Q T R E Q E T P P D F F Y F S D Y E R H N A E I A A F H L D R I L D F R R V P P V A G R M V N M T K E I R D V T R D K K L W R T F F I S P A N N I C F Y G E C S Y Y C S T E H A L C G K P D Q I E G S L A A F L P D L S L A K R K T W R N P W R R S Y H K R K K A E W E V D P D Y C E E V K Q T P P Y D S S H R I L D V M D M T I F D F L M G N M D R H H Y E T F E K F G N E T F I I H L D N G R G F G K Y S H D E L S I L V P L Q Q C C R I R K S T Y L R L Q L L A K E E Y K L S L L M A E S L R G D Q V A P V L Y Q P H L E A L D R R L R V V L K A V R D C V E R N G L H S V V D D D L D T E H R A A S A R
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The FAM20C Protein functions as a Golgi serine/threonine protein kinase with a pivotal role in the phosphorylation of secretory pathway proteins within Ser-x-Glu/pSer motifs, crucial for the biomineralization of bones and teeth. Serving as the primary protein kinase for extracellular proteins, FAM20C significantly contributes to the generation of the extracellular phosphoproteome, displaying a preference for proteins within the Ser-x-Glu/pSer motif while also exhibiting broader substrate specificity. Notably, FAM20C phosphorylates ERO1A to enhance its activity, crucial for maintaining endoplasmic reticulum redox homeostasis and facilitating oxidative protein folding. In times of endoplasmic reticulum stress, FAM20C phosphorylates P4HB/PDIA1, inducing a functional switch that transforms P4HB from an oxidoreductase to a molecular chaperone, crucial for maintaining ER proteostasis and reducing cell death under ER stress. Additionally, FAM20C is essential for osteoblast differentiation and mineralization, phosphorylating various proteins involved in biomineralization, such as AMELX, AMTN, ENAM, and SPP1/OPN. Beyond its role in biomineralization, FAM20C also contributes to lipid homeostasis, wound healing, and cell migration and adhesion.

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