# Recombinant FAD1 protein (His tag)

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| **Catalog Number** | 540797 |
| **Synonyms** | FAD pyrophosphorylase; FMN adenylyltransferase; Flavin adenine dinucleotide synthase |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q8NFF5 |
| **Molecular Weight** | Predictes a molecular mass of 54.57 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 55 kDa band. |

## Product Information

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| **Sequence Region** | 110-587 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >85%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 110-587 aa (Q8NFF5) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | This recombinant protein product features a stable and soluble fragment (residues 110-587) of human FAD synthase (FLAD1), designed for structural and biochemical studies. It represents a key functional region involved in the adenylation of flavin mononucleotide (FMN) to produce flavin adenine dinucleotide (FAD), an essential coenzyme in cellular metabolism.<br>FAD synthase (EC 2.7.7.2), encoded by the FLAD1 gene in Homo sapiens, catalyzes the adenylation of FMN to form FAD, a critical coenzyme required for numerous redox reactions and metabolic pathways. The full-length protein includes distinct regions such as a molybdenum cofactor biosynthesis protein-like domain and the FAD synthase catalytic domain. Isoform 1 localizes to the mitochondrial matrix, while isoform 2 is cytoplasmic, reflecting its roles in energy production and cellular signaling. This fragment was selected for its stability and solubility, enabling detailed investigation into FAD biosynthesis mechanisms. |