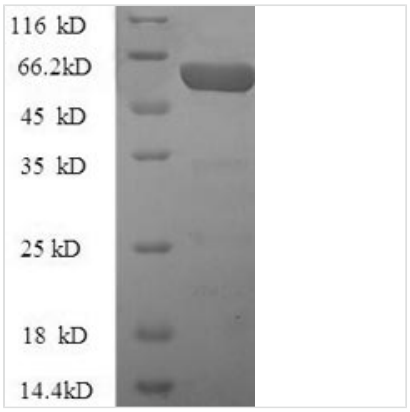
Recombinant Human Kynurenine 3-monooxygenase (KMO)

Product Code	CSB-EP012475HU
Relevance	Catalyzes the hydroxylation of L-kynurenine (L-Kyn) to form 3-hydroxy-L-kynurenine (L-3OHKyn). Required for synthesis of quinolinic acid, a neurotoxic NMDA receptor antagonist and potential endogenous inhibitor of NMDA receptor signaling in axonal targeting, synaptogenesis and apoptosis during brain development. Quinolinic acid may also affect NMDA receptor signaling in pancreatic beta cells, osteoblasts, myocardial cells, and the gastrointestinal tract.
Abbreviation	Recombinant Human KMO protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O15229
Alias	Kynurenine 3-hydroxylase
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MDSSVIQRKKVAVIGGGLVGSLQACFLAKRNFQIDVYEAREDTRVATFTRGRSI NLALSHRGRQALKAVGLEDQIVSQGIPMRARMIHSLSGKKSAIPYGTKSQYILS VSRENLNKDLLTAAEKYPNVKMHFNHRLLKCNPEEGMITVLGSDKVPKDVTCD LIVGCDGAYSTVRSHLMKKPRFDYSQQYIPHGYMELTIPPKNGDYAMEPNYLH IWPRNTFMMIALPNMNKSFTCTLFMPFEEFEKLLTSNDVVDFFQKYFPDAIPLIG EKLLVQDFFLLPAQPMISVKCSSFHFKSHCVLLGDAAHAIVPFFGQGMNAGFE DCLVFDELMDKFSNDLSLCLPVFSRLRIPDDHAISDLSMYNYIEMRAHVNSSWF IFQKNMERFLHAIMPSTFIPLYTMVTFSRIRYHEAVQRWHWQKKVINKGLFFLG SLIAISSTYLLIHYMSPRSFLRLRRPWNWIAHFRNTTCFPAKAVDSLEQISNLISR
Research Area	Metabolism
Source	E.coli
Target Names	KMO
Expression Region	1-486aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	71.8kDa
Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The preparation of Recombinant Human KMO protein included 3 main steps: construct the expression vector, expression of protein of interest, and protein purification. Every step was performed under a strict QC system so that we got the premium protein. This KMO was expressed in E.coli at and fused with N-terminal 6xHis-SUMO tag. According to SDS-PAGE, the purity turns out to be 90%+.

kynurenine 3-monooxygenase (KMO) functions as a pivotal enzyme in the main branch of the enzymatic cascade because it generates several toxic metabolites, including 3-hydroxykynurenine and quinolinic acid, which are responsible for neurodegenerative and inflammatory disorders. In recent years, researchers first revealed a novel enzymatic activity independent function of KMO in triple negative breast cancer (TNBC). Specifically, the findings suggested a positive correlation between the increased expression of KMO in breast cancer and TNBC and metastasis and recurrence. Besides, the contribution of KMO expression to the malignant phenotype of TNBC cells, particularly cancer stem cell (CSC) properties, but which leads to increased expression of pluripotent genes such as Nanog, Oct4, and Sox2.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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