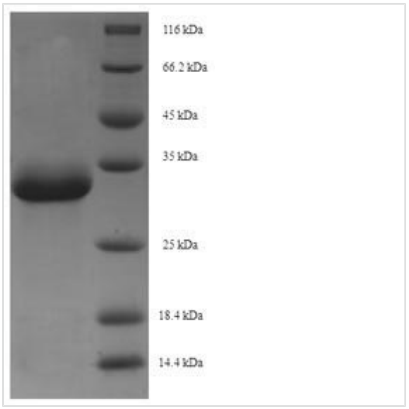
Recombinant Macaca fascicularis Erythropoietin (EPO)

Product Code	CSB-EP007743MOV
Relevance	Erythropoietin is the principal hormone involved in the regulation of erythrocyte differentiation and the maintenance of a physiological level of circulating erythrocyte mass.
Abbreviation	Recombinant Cynomolgus monkey EPO 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.	P07865
Product Type	Recombinant Protein
Immunogen Species	Macaca fascicularis (Crab-eating macaque) (Cynomolgus monkey)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	APPRLICDSRVLERYLLEAKEAENVTMGCSESCSLNENITVPDTKVNFYAWKR MEVGQQAVEVWQGLALLSEAVLRGQAVLANSSQPFEPLQLHMDKAISGLRSIT TLLRALGAQEAISLPDAASAAPLRTITADTFCKLFRVYSNFLRGKLKLYTGEACR RGDR
Research Area	Others
Source	E.coli
Target Names	EPO
Expression Region	28-192aa
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	34.2kDa
Protein Length	Full Length of Mature Protein
Image	



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

Description

This Recombinant Macaca fascicularis Erythropoietin (EPO) is expressed in E. coli and covers the full length of the mature protein from amino acids 28 to 192. The protein comes with an N-terminal 6xHis-SUMO tag, which makes purification and detection more straightforward. SDS-PAGE analysis shows the product maintains purity levels above 90%, suggesting it's well-suited for most research applications.

Erythropoietin appears to be one of the more important glycoprotein hormones when it comes to controlling red blood cell production. The protein seems to drive erythropoiesis by encouraging both differentiation and growth of erythroid progenitor cells. Researchers have shown considerable interest in EPO's function and related pathways, especially those studying blood formation processes and exploring potential treatments for anemia and similar blood disorders.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Validation Studies

This recombinant cynomolgus monkey EPO may work well as an immunogen or coating antigen when developing species-specific antibodies against primate EPO. The N-terminal His-SUMO tag makes purification relatively simple and allows for immobilization in ELISA-based antibody screening and characterization assays. With purity exceeding 90%, the protein appears suitable for immunization protocols in standard antibody production workflows. The cynomolgus monkey origin is particularly useful here - it could help develop research tools for non-human primate studies where species cross-reactivity matters.

2. Protein-Protein Interaction Studies

The His-SUMO tag system should allow for reasonably efficient pull-down

assays to identify and characterize EPO binding partners or receptor interactions in vitro. Researchers can immobilize the recombinant protein on nickel-affinity resins and use it to capture interacting proteins from cell lysates or purified protein preparations. This approach might prove useful for studying EPO signaling pathway components and potentially identifying novel regulatory proteins. The mature protein sequence (28-192aa) likely represents the biologically relevant form for these interaction studies.

3. Comparative Species Analysis and Cross-Reactivity Testing

This cynomolgus monkey EPO could serve in comparative studies alongside human or other primate EPO variants to assess species-specific differences in protein structure and immunological properties. The recombinant protein may work as a reference standard for evaluating cross-reactivity of EPO-targeting research reagents across primate species. Such studies appear valuable for understanding evolutionary conservation of EPO and for validating research tools intended for non-human primate models.

4. Biochemical Characterization and Stability Studies

The purified recombinant protein can undergo various biochemical analyses including mass spectrometry, circular dichroism spectroscopy, and thermal stability assays to characterize its biophysical properties. The >90% purity level seems adequate for most analytical techniques commonly used in protein characterization. These studies might provide insights into the folding, stability, and structural features of cynomolgus monkey EPO compared to other species variants.

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	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.