Recombinant OOEP protein (His tag)

Catalog Number	541676
Synonyms	KH homology domain-containing protein 2; Oocyte- and embryo-specific protein 19; hOEP19
Species	Human
Expression System	E. coli
Accession	A6NGQ2
Molecular Weight	Predictes a molecular mass of 18.82 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	1-149
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 1-149 aa (A6NGQ2) were fused with 6His tag.

Storage & Handling

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. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Oocyte-expressed protein homolog (OOEP) fragment (amino acids 1-149) from Homo sapiens, encompassing the complete KH and atypical domains. This high-purity protein is an essential tool for investigating maternal effect gene functions, DNA replication fork dynamics, and homologous recombination repair mechanisms in early embryonic development. OOEP is a critical component of the subcortical maternal complex (SCMC), a multiprotein assembly essential for early embryonic development. As a structural constituent of cytoplasmic lattices in oocytes and preimplantation embryos, the SCMC complex stores maternal proteins required for epigenetic reprogramming and prevents their premature degradation or activation. Specifically, OOEP forms a scaffold with KHDC3 to recruit BLM and TRIM25 to DNA replication forks, promoting BLM ubiquitination and enhancing stalled replication fork restart. Additionally, OOEP positively regulates homologous recombination-mediated DNA double-strand break repair by modulating ATM activation and RAD51 recruitment, thereby ensuring oocyte survival and meiotic completion. The protein localizes to the cytoplasm and nucleus, with core presence in cytoplasmic lattices and subcortical regions of early embryos from the 1-cell to blastocyst stages, excluding cell-cell contact areas from the 2-cell stage onward.