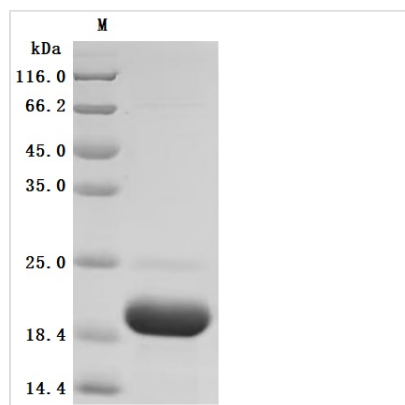


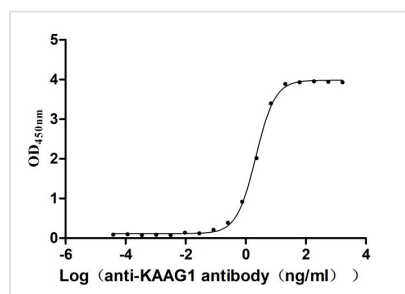


Recombinant Human Kidney-associated antigen 1 (KAAG1) (Active)

Product Code	CSB-EP871385HU
Abbreviation	Recombinant Human KAAG1 protein (Active)
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.	Q9UBP8
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 µm sterile filtered 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human KAAG1 at 2 µg/mL can bind Anti-KAAG1 recombinant antibody(CSB-RA871385MA1HU). The EC50 is 2.040-2.284 ng/mL.
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MDDDAAPRVEGVVPVAVHKHALHDGLRQVAGPGAAAAHLPRWPPPQLAASRR EAPPLSQRPVRTQGAGSPPETNEKLTPVQVKEK
Source	E.coli
Target Names	KAAG1
Expression Region	1-84aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4? for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	15.9 kDa
Protein Length	Full Length
Image	



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



Activity

Measured by its binding ability in a functional ELISA. Immobilized Human KAAG1 at 2μg/mL can bind Anti-KAAG1 recombinant antibody(CSB-RA871385MA1HU)?the EC₅₀ is 2.040-2.284 ng/mL.

Description

The recombinant human KAAG1 Protein is a highly purified biological reagent expressed in Escherichia coli, comprising amino acid residues 1-84 of the full-length human KAAG1 sequence with a C-terminal 6xHis tag for efficient purification. Produced as a lyophilized powder, this recombinant KAAG1 protein demonstrates exceptional quality control parameters, exhibiting >90% purity as verified by SDS-PAGE analysis and containing <1.0 endotoxin units per microgram (EU/μg) when assessed through the LAL method. Functional characterization via ELISA reveals its strong binding capability to the anti-KAAG1 recombinant antibody (CSB-RA871385MA1HU), with an effective concentration for half-maximal response (EC₅₀) ranging between 2.040 and 2.284 ng/mL when immobilized at 2 μg/mL. These biochemical and functional properties establish this engineered protein as a reliable tool for studying KAAG1-mediated biological processes, particularly in antibody interaction analyses and molecular binding assays requiring precise quantitation of protein-ligand interactions.

Human KAAG1 is a protein involved in various kidney-related conditions and physiological processes. As a protein expressed in normal kidneys, KAAG1 likely plays a role in cellular processes associated with kidney health, and it becomes particularly relevant in pathological situations such as acute kidney injury and glomerulonephritis.

KAAG1 has been linked to the immunogenicity observed in kidney transplantation contexts. Studies indicate that specific antigens, including KAAG1, can be recognized by antibodies in the serum of transplant recipients, potentially influencing graft rejection rates [1][2]. This relationship highlights the role of KAAG1 not only as a marker of renal tissue but also as part of the immunological environment surrounding kidney transplantation, where its



expression can contribute to humoral immune responses critical in graft acceptance or rejection.

Moreover, the significance of KAAG1 extends into the realm of kidney disease, particularly regarding hepatitis B virus (HBV)-associated nephropathy. Research indicates that HBV infection can lead to kidney damage manifesting as glomerulonephritis, wherein KAAG1 may serve as an immunological target, possibly influencing the pathological mechanisms underlying HBV's effects on kidney structures [3][4].

The interaction of KAAG1 with various cellular processes adds complexity to its functional profile. Studies on acute kidney injury suggest that different signaling pathways may intersect with KAAG1 activity [5]. For instance, the epithelial cell response to injury is crucial, where KAAG1 may influence repair mechanisms or cell proliferation, indicating its potential integral role in both renal tissue integrity and the reparative process following injury.

Furthermore, understanding KAAG1's role in renal fibrosis and inflammation is essential, particularly as macrophage-derived microvesicles interplay with antigens like KAAG1 during renal inflammation, potentially modulating the disease state and influencing therapeutic approaches [6][7].

References:

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Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
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.