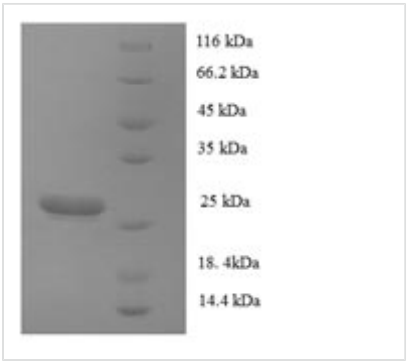
Recombinant Human Collagen alpha-1 (XVII) chain (COL17A1), partial

Product Code	CSB-EP891970HU
Relevance	May play a role in the integrity of hidesmosome and the attachment of basal keratinocytes to the underlying basent mbrane.The 120 kDa linear IgA disease antigen is an anchoring filament component involved in dermal-epidermal cohesion. Is the target of linear IgA bullous dermatosis autoantibodies.
Abbreviation	Recombinant Human COL17A1 protein, partial
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.	Q9UMD9
Alias	180 kDa bullous pemphigoid antigen 2Bullous pemphigoid antigen 2
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	YLTSPDVRSFIVGPPGPPGPQGPPGDSRLLSTDASHSRGSSSSSHSSSVRRG SSYSSSMSTGGGGAGSLGAGGAFGEAAGDRGPYGTDIGPGGGYGAAAEGG MYAGNGGLLGADFAGDLDYNELAVRVSESMQRQGLLQGMAYTVQGPPGQP GPQGPPGISKVFSAYSNVTADLMDFFQTYGAIQGPPGQKGEMGTPGPKGDR GPAGPPGHPGPPGPRGHKGEKGDKGDQVYAGRRRRRSIAVKP
Research Area	Signal Transduction
Source	E.coli
Target Names	COL17A1
Expression Region	1253-1497aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	28.4kDa
Protein Length	Partial
Image	



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

Description

The gene responsible for the human Collagen alpha-1 (XVII) chain (COL17A1) protein (1253-1497aa) is co-cloned into a plasmid vector with the N-terminal 6xHis-tag gene to obtain recombinant plasmid, which is then transformed into E.coli cells. E.coli cells demonstrating successful uptake of the recombinant plasmid are selected based on their ability to endure a specific antibiotic. The E.coli cells containing the recombinant plasmid are cultured under conditions promoting the expression of the gene of interest. Post-expression, affinity purification is employed to isolate and purify the recombinant human COL17A1 protein from the cell lysate. The resulting recombinant protein is subjected to denaturing SDS-PAGE, allowing for an estimation of its purity, surpassing 90%.

COL17A1, also known as collagen type XVII alpha 1 chain, is a protein anchored in cell membranes, crucial for many biological functions. It forms part of structures called hemidesmosomes, essential for anchoring skin cells to the underlying basement membrane [1][2][3]. COL17A1 helps skin cells called keratinocytes stick to the basement membrane, keeping the skin intact [4]. It's also vital for creating a suitable environment for special skin cells called melanocyte stem cells, important for skin cell renewal, aging, and the development of skin cancer [5][6]. When COL17A1 levels drop, it affects skin balance and can accelerate aging, especially with exposure to sunlight [4][7]. In cancer, COL17A1 is often overproduced, promoting the growth, spread, and resistance to cell death [8]. On the flip side, changes in how the COL17A1 gene is controlled can increase cancer cell invasion [9]. Removing a specific part of the COL17A1 gene can trigger skin inflammation linked to certain immune responses [10]. Mutations in COL17A1 are associated with skin disorders, both inherited and acquired, like junctional epidermolysis bullosa and corneal dystrophies [11]. Scientists are investigating ways to target COL17A1 for therapy in these conditions, such as correcting gene defects to restore normal protein levels.

References:

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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.