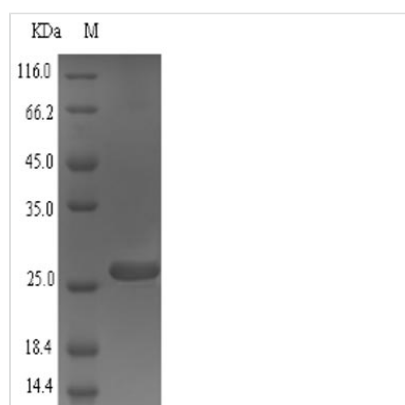




Recombinant Mouse Small proline-rich protein 2A1 (Sprr2a1)

Product Code	CSB-EP022612MO
Relevance	Cross-linked envelope protein of keratinocytes. It is a keratinocyte protein that first appears in the cell cytosol, but ultimately becomes cross-linked to membrane proteins by transglutaminase. All that results in the formation of an insoluble envelope beneath the plasma membrane
Abbreviation	Recombinant Mouse Sprr2a1 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.	Q9CQK8
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MSYYQQQCNQPCRPVCPVPPKCPEPCPPQVWPGPCRPVMCFEPCLPVWPGPCRPVVCYEQCPPQPWQSTCPPVQFPQCQK
Research Area	Signal Transduction
Source	E.coli
Target Names	Sprr2a1
Expression Region	1-83aa
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	13.4kDa
Protein Length	Full Length

Image



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



Description

Recombinant mouse small proline-rich protein 2A1 (Sprr2a1) production in *E. coli* involves co-inserting the gene of interest (1-83aa of mouse Sprr2a1) into an expression vector with an N-terminal 6xHis-tag gene and transforming it into *E. coli* cells. The cells are cultured under conditions that induce protein expression. After sufficient growth, the cells are lysed to release the recombinant Sprr2a1 protein. The obtained recombinant Sprr2a1 protein is purified through the affinity chromatography technique. The purity of the Sprr2a1 protein is assessed using SDS-PAGE, exceeding 90%.

SPRR2a1 is a member of the small proline-rich protein (SPRR) family, which is essential for forming the cornified cell envelope (CE) in various tissues, such as the skin and uterus. The CE serves as a protective barrier against environmental stress and dehydration [1]. SPRR2a1 is implicated in allergic inflammation and is upregulated in response to IL-6/STAT3 signaling [2]. Studies have demonstrated that SPRR proteins are closely associated with genes encoding other structural proteins like keratin and are vital for maintaining barrier function in the skin [3][4].

Moreover, research has shown that estrogen regulates SPRR2a1 in the mouse uterus [5]. The expression of SPRR proteins, including SPRR2a1, is influenced by hormonal fluctuations during the estrous cycle and pregnancy [5]. This underscores the significance of SPRR proteins in the female reproductive system.

References:

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- [2] I. Nozaki, J. Lunz, S. Specht, D. Stolz, K. Taguchi, ? et al., Small proline-rich proteins 2 are noncoordinately upregulated by il-6/stat3 signaling after bile duct ligation, *Laboratory Investigation*, vol. 85, no. 1, p. 109-123, 2005.
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- [5] Y. Tan, X. Sun, F. Li, S. Tang, Y. Piao, & Y. Wang, Gene expression pattern and hormonal regulation of small proline-rich protein 2 family members in the female mouse reproductive system during the estrous cycle and pregnancy, *Reproduction Nutrition Development*, vol. 46, no. 6, p. 641-655, 2006.
<https://doi.org/10.1051/rnd:2006037>

Shelf Life

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of lyophilized form is 12 months at -20°C/-80°C.