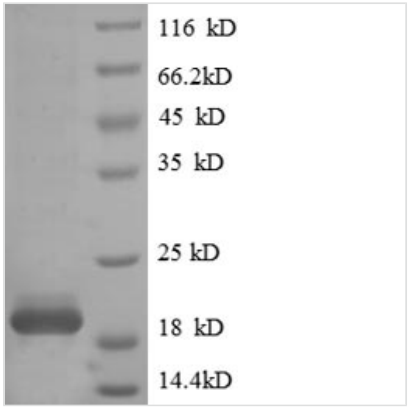
Recombinant Human T cell receptor alpha chain constant (TRAC)

Product Code	CSB-EP024144HU
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.	P01848
Storage Buffer	Tris-based buffer,50% glycerol
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	PNIQNPDPAVYQLRDSKSSDKSVCLFTDFDSQTNVSQSKDSDVYITDKTVLDM RSMDFKSNSAVAWSNKSDFACANAFNNSIIPEDTFFPSPESSCDVKLVEKSFE TDTNLNFQNLSVIGFRILLLKVAGFNLLMTLRLWSS
Lead Time	3-7 business days
Research Area	Immunology
Source	E.coli
Gene Names	TRAC
Expression Region	1-142aa
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	19.9kDa
Protein Description	Full Length
Image	 (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The Recombinant Human TRAC protein is a protein encoded by recombinant DNA that was cloned in an expression vector that supported the expression of TRAC gene. This recombinant TRAC protein was expressed in the host. The expression region is 1-142aa of the Human TRAC. In the production, the expression vector contains N-terminal 6xHis tag. Every production step was performed with a strict QC system. The purity of this protein is 90%+ determined by SDS-PAGE.

The TRAC gene encodes for the constant region of the TCR subunit and is essential for membrane expression of the TCRαβ heterodimer. In recent years, researcher revealed the important roles of TRAC in different diseases. For example, it has been found that mutation in the TCRα subunit constant gene leads to a human immunodeficiency disorder characterized by a lack of TCRαβ+ T cells. Besides, narcolepsy is strongly associated with the T-cell receptor alpha locus. Furthermore, gene rearrangements and lymphoma are partly responsible for a pathogenic TRAC Variant. Previous studies have shown that mutation in TCRα subunit constant (TRAC) leads to loss of αβ TCR on T-cell surface. Beyond this, some findings indicate that CRISPR-Cas9-mediated multiplex gene editing of TRAC, B2M, and PD-1 in CAR-T cells. The reports further adds that although these double (TRAC/B2M)- and triple (TRAC/B2M/PD-1)-negative CAR-T cells need to be further tested for their safety and efficacy in clinical studies, our results suggest that they are promising reagents for cancer therapy.