

## CSRP3 Protein, Human, Recombinant (His & SUMO)

### General Information

Synonyms:	Cysteine and glycine-rich protein 3;CSRP3;Cardiac LIM protein;Muscle LIM protein;MLP;LIM domain protein, cardiac;CLP;Cysteine-rich protein 3 (CRP3)
Protein Construction:	1-194 aa
Species:	Human
Expression Host:	E. coli
Accession:	P50461
Molecular Weight:	37.0 kDa (predicted)
AA Sequence:	MPNWGGGAKCGACEKTVYHAEIQCNGRSFHKTCFHCMACRKALDSTTVAAHESEIYCKVFCYGRRYGPKGIG YGQGAGCLSTDTGEHLGLQFQQSPKPARSVTTSNPSKFTAKFGESEKPCRCGKSVYAAEKVMGGGKPDWHKT CFRCAICGKSLESTNVTDKDGELYCKVYAKNFGPTGIGFGGLTQVEKKE

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Positive regulator of myogenesis. Acts as cofactor for myogenic bHLH transcription factors such as MYOD1, and probably MYOG and MYF6. Enhances the DNA-binding activity of the MYOD1:TCF3 isoform E47 complex and may promote formation of a functional MYOD1:TCF3 isoform E47:MEF2A complex involved in myogenesis. Plays a crucial and specific role in the organization of cytosolic structures in cardiomyocytes. Could play a role in

mechanical stretch sensing. May be a scaffold protein that promotes the assembly of interacting proteins at Z-line structures. It is essential for calcineurin anchorage to the Z line. Required for stress-induced calcineurin-NFAT activation. The role in regulation of cytoskeleton dynamics by association with CFL2 is reported conflictingly: Shown to enhance CFL2-mediated F-actin depolymerization dependent on the CSRP3:CFL2 molecular ratio, and also shown to reduce the ability of CLF1 and CFL2 to enhance actin depolymerization. Proposed to contribute to the maintenance of muscle cell integrity through an actin-based mechanism. Can directly bind to actin filaments, cross-link actin filaments into bundles without polarity selectivity and protect them from dilution- and cofilin-mediated depolymerization; the function seems to involve its self-association. In vitro can inhibit PKC/PRKCA activity. Proposed to be involved in cardiac stress signaling by down-regulating excessive PKC/PRKCA signaling.; May play a role in early sarcomere organization. Overexpression in myotubes negatively regulates myotube differentiation. By association with isoform 1 and thus changing the CSRP3 isoform 1:CFL2 stoichiometry is proposed to down-regulate CFL2-mediated F-actin depolymerization.

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