

Complement Component 1, R Subcomponent (C1r) Active Protein | C1r active protein

Active Complement Component 1, R Subcomponent (C1r)

CATALOG # AAA161831	HOST 293F cell	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Complement Component 1; R Subcomponent (C1r); Active Complement Component 1; R Subcomponent; C1r active protein (eukaryotic; 293F cell); Mouse; C1-r; complement Component 1; Complement component 1 subcomponent r4; C1r active protein

PRODUCT SPECIFICATIONS

Host	293F cell
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Met1~Asn70 7
Applicable Applications for C1r active protein	Activity Assay, Cell Culture
Species	Mouse
Expression System	Eukaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	5.4
Research Area	Signal transduction, Infection immunity, Immune molecule
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

IMAGES

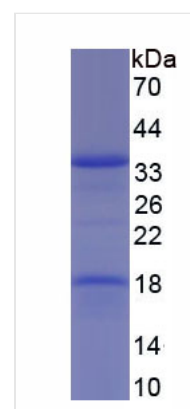
Specific Activity (pmol/min/ug)=

$$\frac{\text{Adjusted } V_{max}^* \text{ (OD/min)} \times \text{well volume (L)} \times 10^{12} \text{ pmol/mol}}{\text{ext. coeff}^{**} \text{ (M}^{-1}\text{cm}^{-1}) \times \text{path corr.}^{***} \text{ (cm)} \times \text{amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank
**Using the extinction coefficient 13260 M⁻¹cm⁻¹
***Using the path correction 0.320 cm

Bioactivity

The classical complement pathway plays a major role in innate immunity against infection. This pathway is triggered by C1, a multimolecular complex composed of the recognition protein C1q and two serine proteases, C1r and C1s. Following the C1q recognition, C1r is autoactivated, and in turn activates C1s, which cleaves C4 and C2, the C1 substrates. Both C1r and C1s activation involve cleavage of a specific Arg-Ile bond, converting single-chain proenzymes into active proteases of disulfide bond-linked chains (A and B). The full-length (amino acid residues 1-707) of mouse C1r was expressed which activity was measured by its ability to cleaves a thioester substrate Z-Lys-SBzl•HCl. The reaction was performed in 50 mM Tris, pH 7.5 (Assay Buffer), initiated by addition 50 uL of various concentrations of C1r (diluted by Assay Buffer) to 50 ul substrate mixture of 0.2mM Z-Lys-SBzl•HCl and 0.2 mM DTNB. The final well serves as a negative control with no C1r, replaced with 50 ul assay buffer. Then read in kinetic mode for 5 minutes at an absorbance of 405 nm. The specific activity of recombinant mouse C1r is > 500 pmol/min/ug.



SDS-PAGE
Figure. SDS-PAGE

ADDITIONAL INFORMATION

Product Categories/Family for C1r active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	164518925
NCBI GeneID	50909
NCBI Accession #	NP_075632.3
NCBI GenBank Nucleotide #	NM_023143.3
UniProt Accession #	Q8CG16; Q99KI6; Q9ET60
Molecular Weight	80,073 Da
NCBI Official Full Name	complement C1r-A subcomponent
NCBI Official Synonym Full Names	complement component 1, r subcomponent A
NCBI Official Symbol	C1ra
NCBI Official Synonym Symbols	C1r; mC1rA; AI132558
NCBI Protein Information	complement C1r-A subcomponent
UniProt Protein Name	Complement C1r-A subcomponent
UniProt Gene Name	C1ra
UniProt Synonym Gene Names	C1r

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/293f-cell-active-protein/complement-component-1-r-subcomponent-c1r/161831>