APC010Hu01 100μg
Active Serpin A10 (SERPINA10)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Pro24~Leu444
Tags: N-terminal His and GST Tag
Purity: >80%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 8.1
Predicted Molecular Mass: 78.3kDa
Accurate Molecular Mass: 80kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

PSPQSPETPAPQNQTSRVVQAPKEEEEDEQEASEEKASEEEKAWLMASRQQLAKETSNFGFSLLRKI
SMRHDGNMVFSPFGMSLAMTGLMLGATGPTETQIKRGLHLQALKPTKPGLLPSLFKGLRETLSRNLE
LGLTQGSFAFIHKDFDVKETFFNLSKRYFDTECVPMNFRNASQAKRLMNHYINKETRGKIPKLFDEI
NPETKLILVDYILFKGKWLTPFDPVFTEVDTFHLDKYKTIKVPMMYGAGKFASTFDKNFRCHVLKLP
YQGNATMLVVLMEKMGDHLALEDYLTTDLVETWLRNMKTRNMEVFFPKFKLDQKYEMHELLRQMGIR
RIFSPFADLSELSATGRNLQVSRVLQRTVIEVDERGTEAVAGILSEITAYSMPPVIKVDRPFHFMIY
EETSGMLLFLGRVVNPTLL

[ACTIVITY]

Protein Z-dependent Protease Inhibitor (ZPI), also known as SerpinA10 (SERine Proteinase INhibitor-clade A10) is a monomeric, secreted member of the A (or extracellular) clade within the serpin superfamily of protease inhibitors. In general, members of this superfamily regulate multiple proteolytic cascades, and are particularly effective due to the fact that their inhibitory activities can be fine-tuned through the participation of discrete, non-serpin co-factors. Serpins are unusual in that they are one-time use, non-recyclable proteins whose native state is thermodynamically unstable. The activity of recombinant human SERPINA10 was measured by its ability to inhibit Coagulation Factor X cleavage of a fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK(Dnp)-NH2 in the assay buffer 50 mM Tris, 10 mM CaCl2, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5. Coagulation Factor X was diluted to 5 ug/ml in the assay buffer and 25 ul different concentrations of recombinant human SERPINA10 (MW: 78.26 KD) was incubated with 25 ul diluted Coagulation Factor X at 37 ℃ for 30 minutes.

Loading 50 μL 20 μM substrate to start the reaction including a substrate blank containing 50 μL of assay buffer and 50 μL of 20 μM substrate. Then read at excitiation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5 minutes. The result was shown in Figure 1 and it was obvious that recombinant human SERPINA10 significantly decreased Coagulation Factor X activity. The inhibition IC50 was <75 nM.

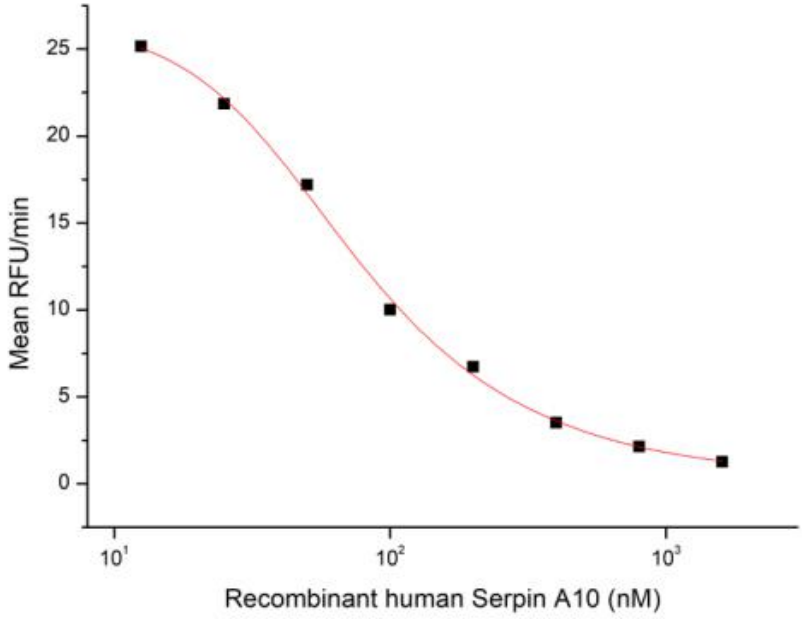

Figure 1. Inhibition of Coagulation Factor X activity by recombinant human SERPINA10

[IDENTIFICATION]

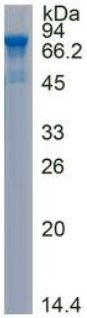

Figure 2. SDS-PAGE

Sample: Active recombinant SERPINA10, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.