

APA012Hu61 100µg
Active S100 Calcium Binding Protein (S100)
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: Eukaryotic expression.

Host: 293F cell

Residues: Met1~Ser94

Tags: N-terminal His-tag

Purity: >95%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .

Original Concentration: 200µg/mL

Applications: Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 4.1

Predicted Molecular Mass: 11.8kDa

Accurate Molecular Mass: 13kDa 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 2-8°C for one month.

Aliquot and store at -80°C 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 37°C 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]

MGSELETAMETLINVFHAHSGKEGDKYKLSKKELKELLQTELSGFLDAQKDVAVDKVMKELDENGDEGEVDFQEYVVLVAALTVACNN
FFWENS

[ACTIVITY]

S100 Calcium Binding Protein (S100) is a member of the S100 calcium-binding protein family, primarily expressed in cardiac and skeletal muscle cells. This 10.4 kDa protein plays crucial roles in calcium homeostasis, muscle contraction regulation, and energy metabolism through interactions with target proteins like titin and ryanodine receptors. S100A1's dysregulation is associated with cardiovascular diseases, including heart failure and hypertrophy. S100 directly binds ANXA6 in a calcium-dependent manner, modulating membrane repair processes. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human S100 and recombinant mouse ANXA6. Briefly, biotin-linked S100 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to ANXA6-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 °C. Finally, add 50 μ l stop solution to the wells and read at 450nm immediately. The binding activity of recombinant human S100 and recombinant mouse ANXA6 was shown in Figure 1, the EC50 for this effect is 0.09 μ g/mL.

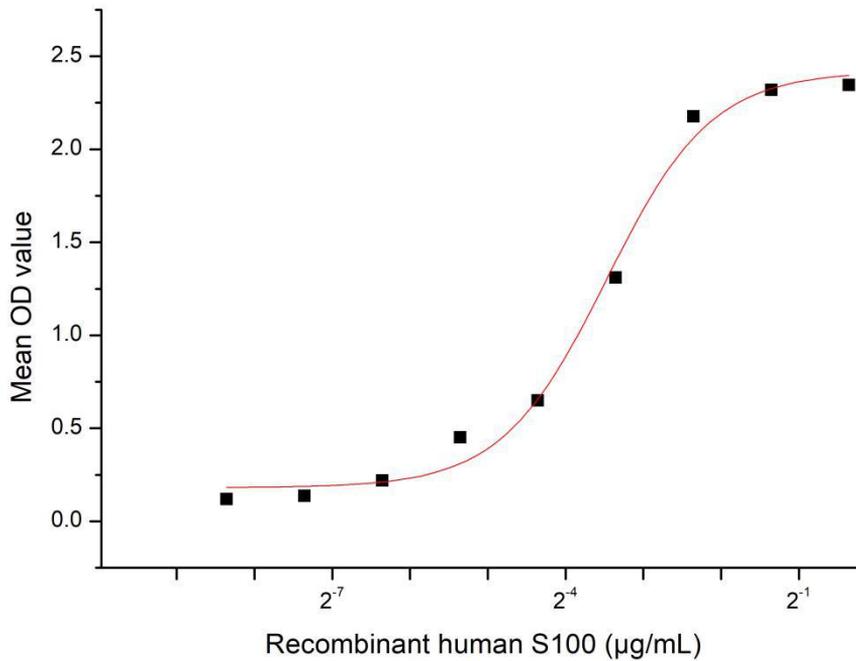


Figure 1. The binding activity of recombinant human S100 and recombinant mouse ANXA6

[IDENTIFICATION]

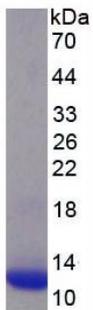


Figure 2. SDS-PAGE

Sample: Active recombinant S100, 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.