APP871Hu01 100μg
Active MHC Class I Polypeptide Related Sequence A (MICA)
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: Glu24~Trp307
Tags: N-terminal His and GST Tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 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: 6.8
Predicted Molecular Mass: 62.7kDa
Accurate Molecular Mass: 63kDa 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]

EPHSLRYNLTVLSWDGSVQSGFLTEVHLDGQPFLRCDRQKCRAKPQGQWAEDVLGNKTWDR
ETRDLTGNGKDLRMTLAHIKDQKEGLHSLQEIRVCEIHEDNSTRSSQHFYYDGELFLSQNLETK
EWTMPQSSRAQTLAMNVRNFLKEDAMKTKTHYHAMHADCLQELRRYLKSGVVLRRTVPPM
VNVTRSEASEGNITVTCRASGFYPWNITLSWRQDGVSLSHDTQQWGDVLPDGNGTYQTWVA
TRICQGEEQRFTCYMEHSGNHSTHPVPSGKVLVLQSHW

[ACTIVITY]

MHC Class I Polypeptide Related Sequence A (MICA) is a stress-induced cell surface protein. It belongs to the MHC class I-like molecules but has distinct features. MICA is highly expressed on cells under stress, such as those with DNA damage or infected cells. Structurally, it has a domain structure that allows for interactions with other molecules.MICA can function as a ligand and binds to Killer Cell Lectin Like Receptor Subfamily D, Member 1 (KLRD1, also known as NKG2D) on the surface of natural killer (NK) cells and some T cells. This binding activates immune cells and enables them to participate in the body's immune surveillance and defense responses.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human MICA and recombinant human KLRD1. Briefly, MICA was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to KLRD1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-MICA pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately.

The binding activity of recombinant human MICA and recombinant human KLRD1 was shown in Figure 1, the EC50 for this effect is 0.582ug/mL.

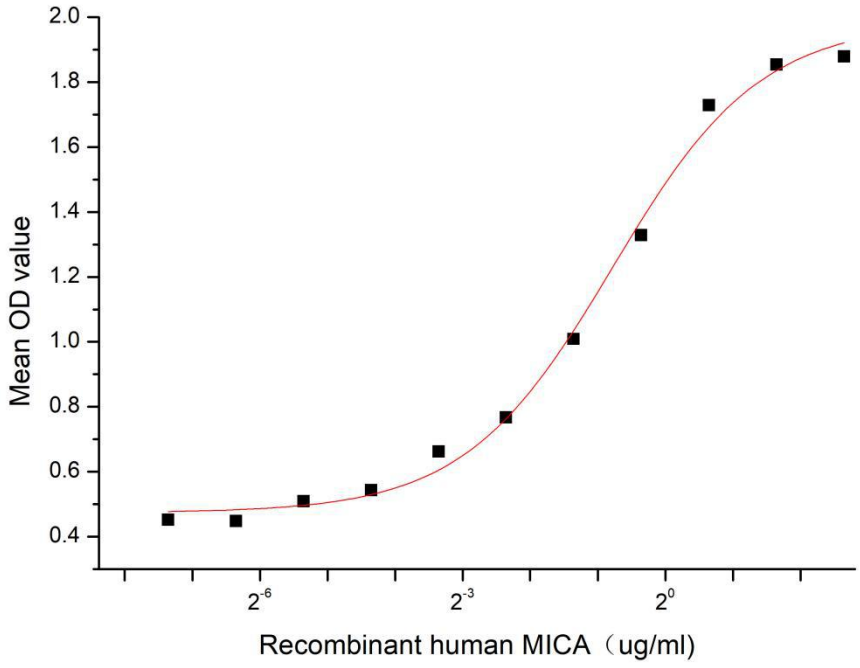

Figure 1. The binding activity of recombinant human MICA and recombinant human KLRD1

[IDENTIFICATION]

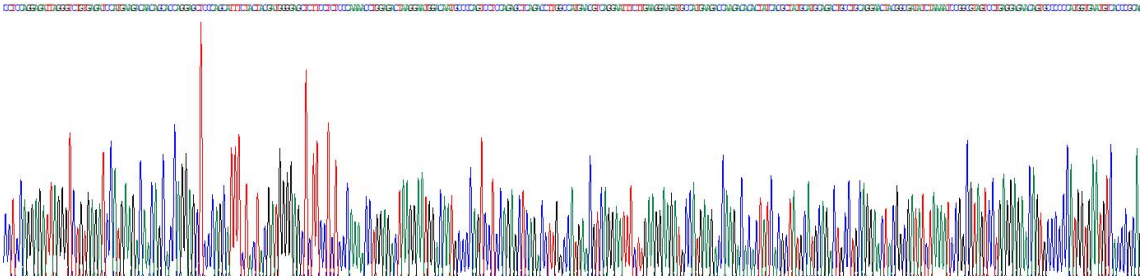

Figure 2. Gene Sequencing (extract)

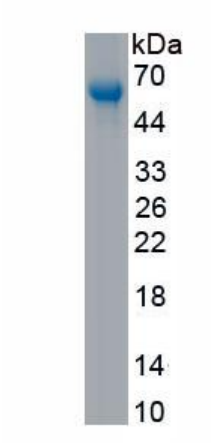

Figure 3. SDS-PAGE

Sample: Active recombinant MICA, 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.