Datasheet for ABIN411398

MICA ELISA Kit

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Overview

Quantity:	96 tests
Target:	MICA
Binding Specificity:	AA 24-307
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human MICA
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Cell Lysate, Tissue Homogenate, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: E24-W307
Specificity:	Expression system for standard: NSO Immunogen sequence: E24-W307
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	MICA
Alternative Name:	MICA (MICA Products)
Background:	Protein Function: Seems to have no role in antigen presentation. Acts as a stress-induced self-antigen that is recognized by gamma delta T- cells. Ligand for the KLRK1/NKG2D receptor. Binding to KLRK1 leads to cell lysis. . Background: MHC class I polypeptide-related sequence A is a protein that in humans is encoded by the MICA gene.1 The MICA gene encodes a 383-amino acid polypeptide with a predicted mass of 43 kD.The MICA and MICB genes occur in a 200-kb region spanning the TNFA and TNFB cluster at 6p21.3.2 MICA and the closely related MICB were recognized by intestinal epithelial T cells expressing diverse V-delta-1 gamma/delta TCRs.3 The MICA protein product is expressed on the cell surface, although unlike canonical class I molecules does not seem to associate with beta-2-microglobulin. It is further distinguished by its unusual exon-intron organization and preferential expression in fibroblasts and epithelial cells. It is thought that MICA functions as a stress-induced antigen that is broadly recognized by NK cells, NKT cells, and most of the subtypes of T cells. MICA and other members of this family may have been selected for specialized functions that are either ancient or derived from those of typical MHC class I genes, in analogy to some of the nonclassic mouse H-2 genes. Synonyms: MHC class I polypeptide-related sequence A,MIC-A,MICA ,PERB11.1 , Full Gene Name: MHC class I polypeptide-related sequence A Cellular Localisation: Cell membrane, Single- pass type I membrane protein . Cytoplasm . Expressed on the cell surface in gastric epithelium, endothelial cells and fibroblasts and in the cytoplasm in keratinocytes and monocytes. Infection with human adenovirus 5 suppresses cell surface expression due to the adenoviral E3-19K protein which causes retention in the endoplasmic reticulum..
Gene ID:	4276
UniProt:	Q29983

Target Details

Pathways:	Activation of Innate immune Response, Transition Metal Ion Homeostasis, Human Leukocyte Antigen (HLA) in Adaptive Immune Response

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Belongs to the MHC class I family. MIC subfamily. Tissue Specificity: Widely expressed with the exception of the central nervous system where it is absent. Expressed predominantly in gastric epithelium and also in monocytes, keratinocytes, endothelial cells, fibroblasts and in the outer layer of Hassal's corpuscles within the medulla of normal thymus. In skin, expressed mainly in the keratin layers, basal cells, ducts and follicles. Also expressed in many, but not all, epithelial tumors of lung, breast, kidney, ovary, prostate and colon. In thyomas, overexpressed in cortical and medullar epithelial cells. Tumors expressing MICA display increased levels of gamma delta T-cells. .
Plate:	Pre-coated
Protocol:	human MICA ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for MICA has been precoated onto 96-well plates. Standards(NSO, E24-W307) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for MICA is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human MICA amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human MICA standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, cell lysates, tissue lysates or serum to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human MICA standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 447, Standard deviation: 22.8, CV(%): 5.1 • Sample 2: n=16, Mean(pg/ml): 1327, Standard deviation: 75.64, CV(%): 5.7 • Sample 3: n=16, Mean(pg/ml): 2443, Standard deviation: 151.5, CV(%): 6.2, • Sample 1: n=24, Mean(pg/ml): 526, Standard deviation: 34.2, CV(%): 6.5

Application Details

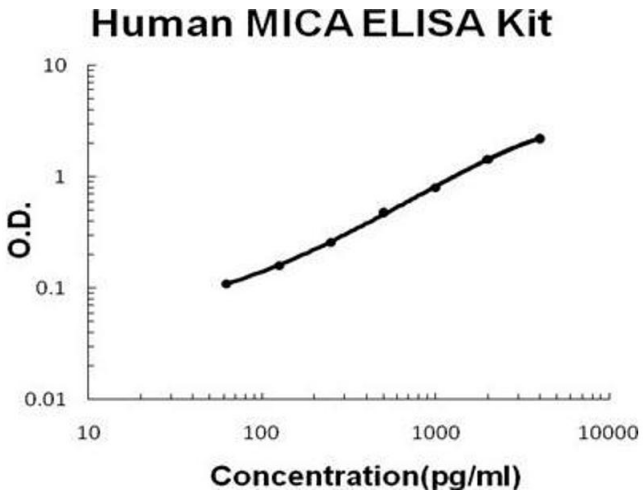
- Sample 2: n=24, Mean(pg/ml): 1648, Standard deviation: 115.4, CV(%): 7
- Sample 3: n=24, Mean(pg/ml): 2756, Standard deviation: 209.5, CV(%): 7.6

Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Images



ELISA

Image 1. Human MICA PicoKine ELISA Kit standard curve