

APD223Hu01 100µg
Active Lipase, Monoacylglycerol (MGL)
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: Met1~Pro303

Tags: N-terminal His-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: 6.5

Predicted Molecular Mass: 37.0kDa

Accurate Molecular Mass: 37kDa 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]

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MPEESSPRRT PQSIPYQDLP HLVNADGQYL FCRYWKPTGT PKALIFVSHG
AGEHSGRYEE LARMLMGLDL LVFAHDHVGH GQSEGERMVV SDFHVFVRDV
LQHVDSMQKD YGPLPVFLLG HSMGGAIAIL TAAERPGHFA GMVLISPLVL
ANPESATTFK VLAAKVLNLV LPNLSLGPID SSVLSRNKTE VDIYNSDPLI
CRAGLKVCFG IQLLNAVSRV ERALPKLTVP FLLLQGSADR LCDSKGAYLL
MELAKSQDKT LKIYEGAYHV LHKELPEVTN SVFHEINMWV SQRTATAGTA
SPP
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[ACTIVITY]

Monoacylglycerol lipase (MGL) is a crucial serine hydrolase primarily responsible for the hydrolysis of the endocannabinoid 2-arachidonoylglycerol (2-AG), thereby terminating its signaling. It plays a central role in regulating endocannabinoid tone, metabolism, and various physiological processes, including pain sensation, inflammation, and neuronal excitability. Dysregulation of MGL activity is implicated in numerous neurological disorders and cancer. While MGL and Sonic Hedgehog (SHH) operate in distinct signaling pathways, emerging research suggests a potential functional intersection in specific contexts like tumorigenesis, where MGL-derived lipid signals might indirectly influence the SHH pathway. Besides, SHH has been identified as an interactor of MGL, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human MGL and recombinant mouse SHH. Briefly, MGL was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to SHH-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-MGL pAb, then aspirated

and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 °C , 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 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human MGL and recombinant mouse SHH was shown in Figure 1, the EC50 for this effect is 0.43498µg/mL..

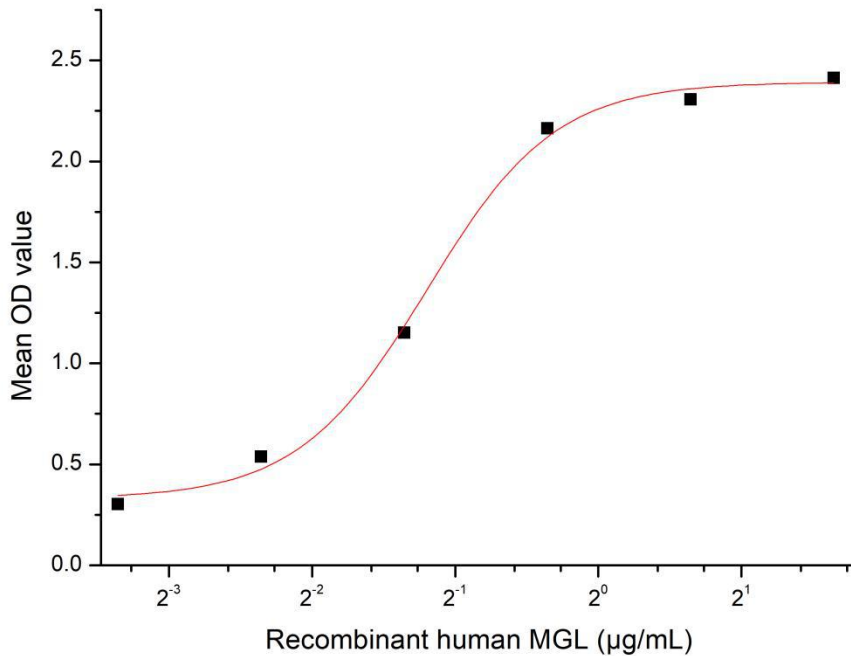


Figure 1. The binding activity of recombinant MGL and human SHH

[IDENTIFICATION]

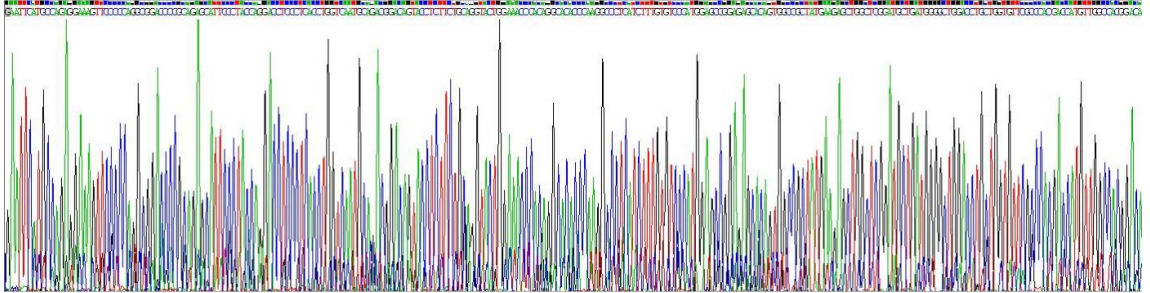


Figure 2. Gene Sequencing (extract)

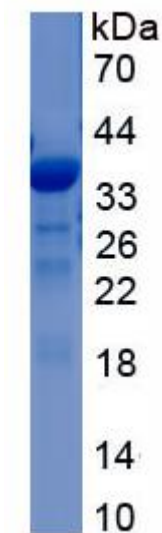


Figure 3. SDS-PAGE

Sample: Active recombinant MGL, 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.