

APB332Ra01 100µg
Active Ornithine Decarboxylase (ODC)
Organism Species: *Rattus norvegicus (Rat)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Met1~Val461

Tags: N-terminal His-tag

Purity: >98%

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

Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.

Applications: Cell culture; Activity Assays.

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

Predicted isoelectric point: 5.2

Predicted Molecular Mass: 54.7kDa

Accurate Molecular Mass: 55kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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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MG SFTKEEFD CHILDEGFTA KDILDQKINE VSSDDKDAF YVADLGDVLK
KHLRWL KALP RVTPFYAVKC NDSRAIVSTL AAIGTGFDC A SKTEIQLVQG
LG VPPERIIY ANPCKQVSQI KYAASNGVQM MTFDSEIELM KVARAHPKAK
LVLRIATDDS KAVCR LSVKF GATLKTSRLL LERAKELNID VIGVSFHVGS
GCTDPETFVQ AVSDARCVFD MGTEVGF SMY LLDIGGGFPG SEDTKLK FEE
ITSVINPALD KYFPSDSGVR IIAEPGRYYV ASAFTLAVNI IAKKTVWKEQ
TGSDDEDESN EQTLMYYVND GYVGSFNCIL YDHAHV KALL QKRPKPDEKY
YSSSIWGPTC DGLDRIVERC SLPEMHVGDW MLFENMGAYT VAAASTFNGF
QRPNIIYYVMS RSMWQLMKQI QSHGFPPEVE EQDVGTL PMS CAQESGMDRH
PAACASASIN V
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[ACTIVITY]

The enzyme ornithine decarboxylase (ODC) catalyzes the decarboxylation of ornithine (a product of the urea cycle) to form putrescine. This reaction is the committed step in polyamine synthesis. Lysine 69 on ornithine decarboxylase (ODC) binds the cofactor pyridoxal phosphate to form a Schiff base. Ornithine displaces the lysine to form a Schiff base attached to ODC, which decarboxylates to form a quinoid intermediate. This intermediate rearranges to form a Schiff base attached to putrescine, which is attacked by lysine to release putrescine product and reform PLP-bound ODC. Besides, Thymidine Kinase 1, Soluble (TK1) has been identified as an interactor of ODC, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat ODC and recombinant rat TK1. Briefly, ODC were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to TK1-coated microtiter wells and

incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-ODC pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of ODC and TK1 was shown in Figure 1, and this effect was in a dose dependent manner.

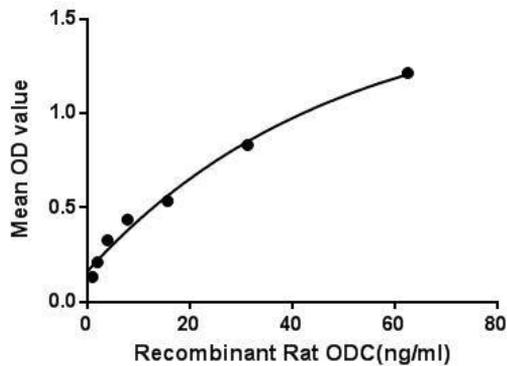


Figure 1. The binding activity of ODC with TK1.

[IDENTIFICATION]

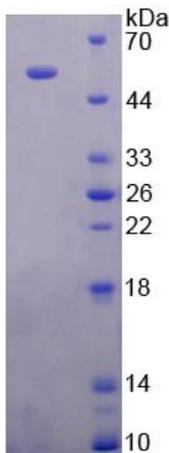


Figure 2. SDS-PAGE

Sample: Active recombinant ODC, Rat

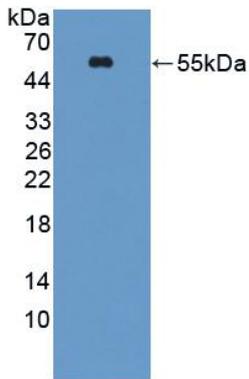


Figure 3. Western Blot

Sample: Recombinant ODC, Rat;

Antibody: Rabbit Anti-Rat ODC Ab (PAB332Ra01)

[IMPORTANT NOTE]

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