APD295Ra01 50μg
Active Cytochrome P450 1A1 (CYP1A1)
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: Ser251~His521
Tags: Two N-terminal Tags, His-tag and GST-tag
Purity: >80%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5% Trehalose.
Original Concentration: 150μg/mL
Applications: Cell culture; 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: 61.5kDa
Accurate Molecular Mass: 62kDa 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 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]

SLDAFKDLNK KFYSFMKKLI KEHYRTFEKG HIRDITDSLI EHCQDRRLDE
NANVQLSDDK VITIVFDLFG AGFDTITTAI SWSLMYLVTN PRIQRKIQEE
LDTVIGRDRQ PRLSDRPQLP YLEAFILETF RHSSFVPFTI PHSTIRDTSL
NGFYIPKGHC VFVNQWQVNH DQELWGDPNE FRPERFLTSS GTLDKHLSEK
VILFGLGKRK CIGETIGRLE VFLFLAILLQ QMEFNVSPGE KVDMTPAYGL
TLKHARCEHF QVQMRSSGPQ H

[ACTIVITY]

Cytochrome P450 1A1 (CYP1A1) is a member of Cytochromes P450 superfamily of enzymes. Cytochromes P450 are a group of heme-thiolate monooxygenases. It oxidizes a variety of structurally unrelated compounds, including steroids, fatty acids, and xenobiotics. CYP1A1 is also known as AHH (aryl hydrocarbon hydroxylase). It is involved in the metabolic activation of aromatic hydrocarbons (polycyclic aromatic hydrocarbons, PAH). Besides, Heat Shock 70kDa Protein 4 (HSPA4) has been identified as an interactor of CYP1A1, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat CYP1A1 and recombinant rat HSPA4. Briefly, CYP1A1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to HSPA4-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CYP1A1 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℃.

Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of of CYP1A1 and HSPA4 was shown in Figure 1, and this effect was in a dose dependent manner.

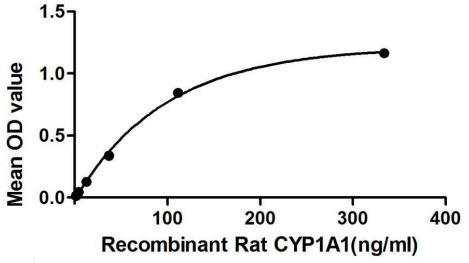

Figure 1. The binding activity of CYP1A1 with HSPA4

[IDENTIFICATION]

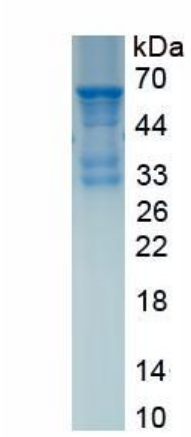

Figure 2. SDS-PAGE

Sample: Active recombinant CYP1A1, Rat

[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.