APD295Ra01 100μg
Active Cytochrome P450 1A1 (CYP1A1)
Organism Species: Rattus norvegicus (Rat)
Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1th Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Ser251~His521
Tags: Two N-terminal Tags, His-tag and GST-tag
Purity: >95%
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: 6.8
Predicted Molecular Mass: 61.5kDa
Accurate Molecular Mass: 62kDa 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^{o}C for one month.
Aliquot and store at -80^{o}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 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]

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.

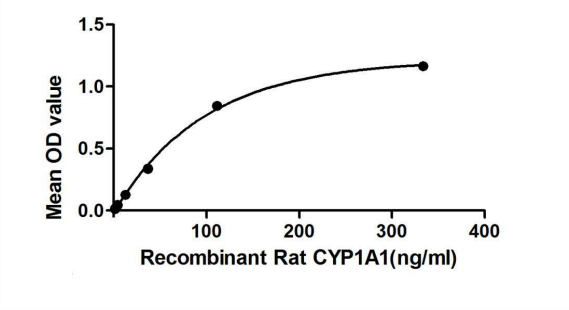

Figure 1. The binding activity of CYP1A1 with HSPA4

[IDENTIFICATION]

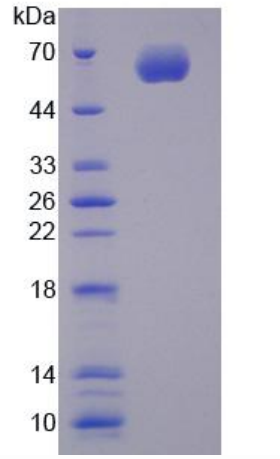

Figure 2. SDS-PAGE

Sample: Active recombinant CYP1A1, Rat

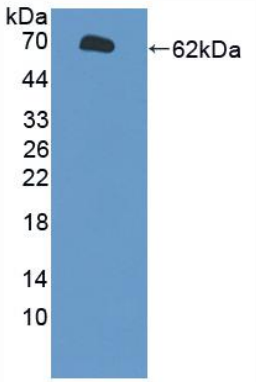

Figure 3. Western Blot

Sample: Recombinant CYP1A1, Rat;

Antibody: Rabbit Anti-Rat CYP1A1 Ab (PAD295Ra01)