APG920Hu01 100μg
Active UDP Glucuronosyltransferase 1 Family, Polypeptide A1 (UGT1A1)
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: His26~Gly276
Tags: N-terminal His-tag
Purity: >80%
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: 6.8
Predicted Molecular Mass: 32.1kDa
Accurate Molecular Mass: 35&32&22kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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 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]

HAGKI LLIPVDGSHW LSMLGAIQQL
QQRGHEIVVL APDASLYIRD GAFYTLKTYP VPFQREDVKE SFVSLGHNVF
ENDSFLQRVI KTYKKIKKDS AMLLSGCSHL LHNKELMASL AESSFDVMLT
DPFLPCSPIV AQYLSLPTVF FLHALPCSLE FEATQCPNPF SYVPRPLSSH
SDHMTFLQRV KNMLIAFSQN FLCDVVYSPY ATLASEFLQR EVTVQDLLSS
ASVWLFRSDF VKDYPRPIMP NMVFVG

[ACTIVITY]

UDP-Glucuronosyltransferase 1 Family, Polypeptide A1 (UGT1A1)，as known as GNT1 or UGT1，is a member of the UDP-glucuronosyltransferase (UGT) enzyme family, which plays a critical role in the metabolism of various compounds in the body. This enzyme catalyzes the conjugation of bilirubin, steroids, and other lipophilic compounds with glucuronic acid, facilitating their excretion from the body.The binding of UGT1A1 and Cytochrome P450 1A1 (CYP1A1) is particularly importantin the metabolism of drugs and xenobiotics, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human

UGT1A1 and recombinant rat CYP1A1. Briefly, biotin-linked UGT1A1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to CYP1A1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 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 UGT1A1 and CYP1A1 was shown in Figure 1, the EC50 for this effect is 0.08ug/mL.

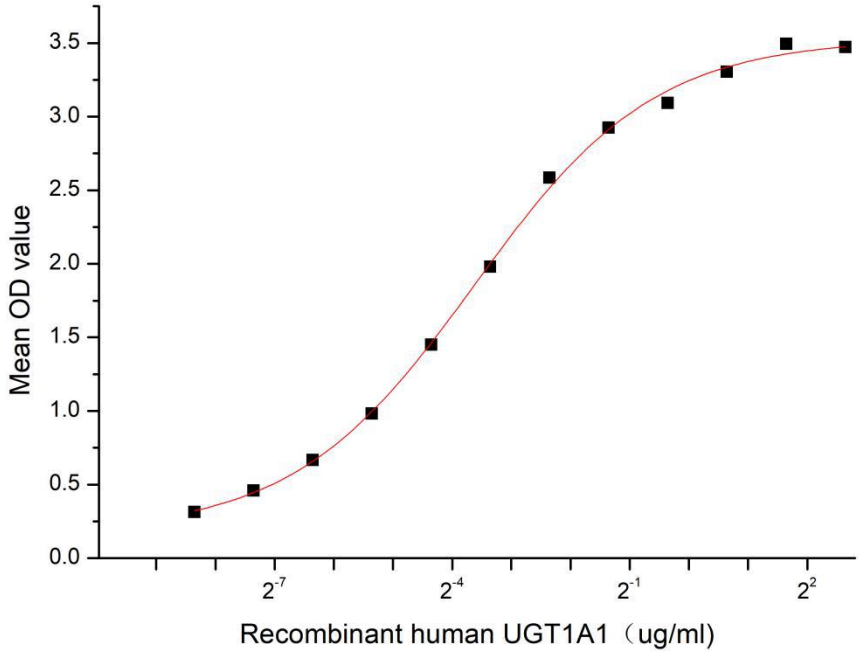

Figure 1. The binding activity of recombinant human UGT1A1 and recombinant rat CYP1A1

[IDENTIFICATION]

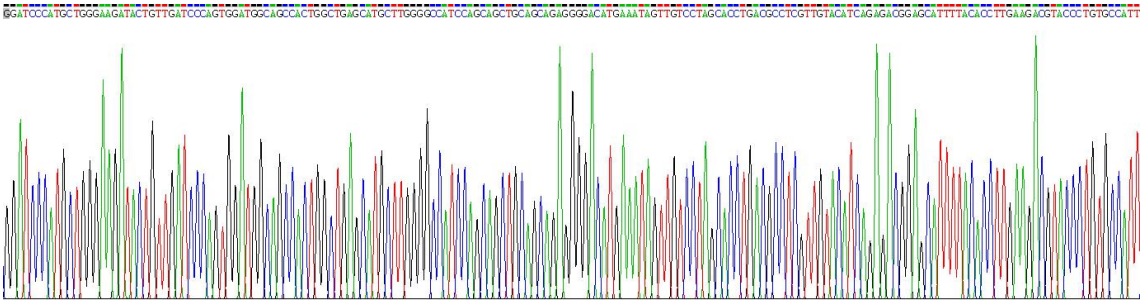

Figure 2. Gene Sequencing (extract)

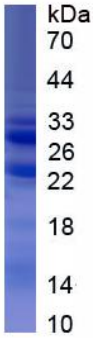

Figure 3. SDS-PAGE

Sample: Active recombinant UGT1A1, 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.