

## UGT1A1 Protein, Human (P.pastoris, His)

<b>Cat. No.:</b>	HY-P72277
<b>Synonyms:</b>	BILIQTL1; UDP-glucuronosyltransferase 1-1
<b>Species:</b>	Human
<b>Source:</b>	P. pastoris
<b>Accession:</b>	P22309 (H26-H533)
<b>Gene ID:</b>	54658
<b>Molecular Weight:</b>	Approximately 70.0 kDa

### PROPERTIES

#### AA Sequence

H A G K I L L I P V	D G S H W L S M L G	A I Q Q L Q Q R G H	E I V V L A P D A S
L Y I R D G A F Y T	L K T Y P V P F Q R	E D V K E S F V S L	G H N V F E N D S F
L Q R V I K T Y K K	I K K D S A M L L S	G C S H L L H N K E	L M A S L A E S S F
D V M L T D P F L P	C S P I V A Q Y L S	L P T V F F L H A L	P C S L E F E A T Q
C P N P F S Y V P R	P L S S H S D H M T	F L Q R V K N M L I	A F S Q N F L C D V
V Y S P Y A T L A S	E F L Q R E V T V Q	D L L S S A S V W L	F R S D F V K D Y P
R P I M P N M V F V	G G I N C L H Q N P	L S Q E F E A Y I N	A S G E H G I V V F
S L G S M V S E I P	E K K A M A I A D A	L G K I P Q T V L W	R Y T G T R P S N L
A N N T I L V K W L	P Q N D L L G H P M	T R A F I T H A G S	H G V Y E S I C N G
V P M V M M P L F G	D Q M D N A K R M E	T K G A G V T L N V	L E M T S E D L E N
A L K A V I N D K S	Y K E N I M R L S S	L H K D R P V E P L	D L A V F W V E F V
M R H K G A P H L R	P A A H D L T W Y Q	Y H S L D V I G F L	L A V V L T V A F I
T F K C C A Y G Y R	K C L G K K G R V K	K A H K S K T H	

**Biological Activity** The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.

**Appearance** Lyophilized powder.

**Formulation** Lyophilized from 0.2 µm filtered solution in 20 mM Tris-HCl, 0.5 M NaCl, 3% Trehalose, pH 8.0.

**Endotoxin Level** <1.0 EU/µg, determined by LAL method.

**Reconstitution** It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O.

**Storage & Stability** Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

**Shipping** Room temperature in continental US; may vary elsewhere.

## DESCRIPTION

### Background

UGT1A1, a crucial member of the UDP-glucuronosyltransferase (UGT) family, orchestrates phase II biotransformation reactions by catalyzing the conjugation of lipophilic substrates with glucuronic acid. This enzymatic process enhances water solubility, facilitating the excretion of metabolites into urine or bile. Essential for the elimination and detoxification of drugs, xenobiotics, and endogenous compounds, UGT1A1 is versatile in its substrate specificity. It catalyzes the glucuronidation of endogenous estrogen hormones like estradiol, estrone, and estriol, contributing to the regulation of hormonal balance. Furthermore, UGT1A1 is involved in the glucuronidation of bilirubin, a byproduct of heme degradation. It extends its catalytic reach to phytoestrogens, such as genistein and daidzein, as well as the pharmacologically active metabolite of irinotecan, SN-38. Interestingly, while UGT1A1 lacks glucuronidation activity, it acts as a negative regulator of isoform 1, showcasing its intricate role in cellular processes.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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