abcam

ab129729

Anti-UGT antibody [7H2AF11]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99% HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	7H2AF11
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purity is near homogeneity as judged by SDS-PAGE. ab129729 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	-

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information UGT1A9

Function

Isoform 1. UDP-glucuronosyltransferase (UGT) that catalyzes phase II biotransformation reactions in which lipophilic substrates are conjugated with glucuronic acid to increase the metabolite's water solubility, thereby facilitating excretion into either the urine or bile (PubMed:12181437, PubMed:15470161, PubMed:15472229, PubMed:18004212, PubMed:18052087, PubMed:18674515, PubMed:19545173, PubMed:15231852, PubMed:21422672, PubMed:38211441). Essential for the elimination and detoxification of drugs, xenobiotics and endogenous compounds (PubMed:12181437, PubMed:18004212). Catalyzes the glucuronidation of endogenous estrogen hormones such as estradiol and estrone (PubMed:15472229). Involved in the glucuronidation of arachidonic acid (AA) and AA-derived eicosanoids including 15-HETE, PGB1 and F2-isoprostanes (8-iso-PGF2alpha and 5-epi-5-F2t-IsoP) (PubMed:15231852, PubMed:38211441). Glucuronates the phytochemical ferulic acid efficently at both the phenolic or the carboxylic acid group (PubMed:21422672). Also catalyzes the glucuronidation of the isoflavones genistein, daidzein, glycitein, formononetin, biochanin A and prunetin, which are phytoestrogens with anticancer and cardiovascular properties (PubMed:18052087, PubMed:19545173). Involved in the glucuronidation of the AGTR1 angiotensin receptor antagonist caderastan, a drug which can inhibit the effect of angiotensin II (PubMed:18674515). Involved in the biotransformation of 7-ethyl-10-hydroxycamptothecin (SN-38), the pharmacologically active metabolite of the anticancer drug irinotecan (PubMed:12181437, PubMed:20610558). Also metabolizes mycophenolate, an immunosuppressive agent (PubMed:15470161, PubMed:18004212). Isoform 2. Lacks UGT glucuronidation activity but acts as a negative regulator of isoform 1.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The protein UGT also known as UDP-glucuronosyltransferase plays a significant role in the process of glucuronidation. Mechanically UGT facilitates the transfer of glucuronic acid from UDP-glucuronic acid to various substrates including hormones and drugs which increases their solubility in water. The mass of UGT proteins can vary depending on isoform types generally ranging from 50 to 60 kDa. UGT is mainly expressed in the liver but it is also found in the intestine kidneys and other tissues reflecting its comprehensive role in metabolism.
Biological function summary	The UGT enzymes function in detoxification processes by converting lipophilic substances into more water-soluble metabolites which can then be excreted from the body. UGT forms part of a multienzyme complex involved in phase II drug metabolism. It also interacts with other enzymes involved in conjugation pathways like sulfotransferases to ensure efficient and effective elimination of potentially harmful compounds.
Pathways	UGT enzymes play a pivotal role in the glucuronidation pathway which is a part of phase II of drug metabolism. This pathway connects to larger detoxification networks involving cytochrome P450 enzymes such as CYP3A4 which provide substrates for glucuronidation. Together these enzymes participate in xenobiotic metabolism impacting drug efficacy and safety by modifying drugs and endogenous compounds.
Associated diseases and disorders	UGT enzymes have implications in inherited metabolic disorders like Crigler-Najjar syndrome which results from mutations in the gene encoding UGT1A1 leading to impaired bilirubin conjugation. UGT's activity is also linked to the development of hyperbilirubinemia or Gilbert's syndrome a milder condition characterized by

intermittent jaundice. Additionally diseases such as cancer and the protein's interaction with other metabolic enzymes like GST (glutathione S-transferase) can modulate drug resistance affecting treatment outcomes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

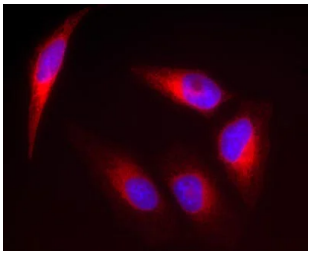
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

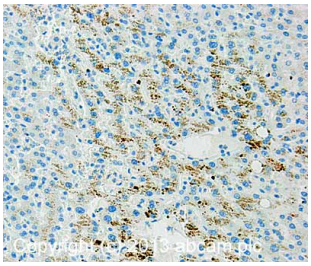
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-UGT antibody [7H2AF11] (ab129729)

UGT Immunocytochemistry/ Immunofluorescence staining using mouse Anti-UGT antibody

Immunocytochemistry image of ab129729 stained Hela cells. The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15min). The cells were incubated with ab129729 at 5 µg/ml for 2h at room temperature or over night at 4°C. The secondary antibody was (red) AlexaFluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. 1% BSA was used as the blocking agent for all blocking steps. DAPI was used to stain the cell nuclei (blue). The target protein locates to the endoplasmic reticulum.

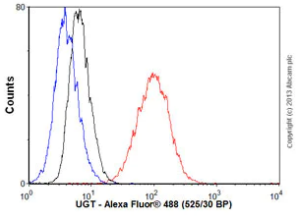


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-UGT antibody [7H2AF11] (ab129729)

UGT Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-UGT antibody

IHC image of UGT staining in Human Normal liver formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab129729, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

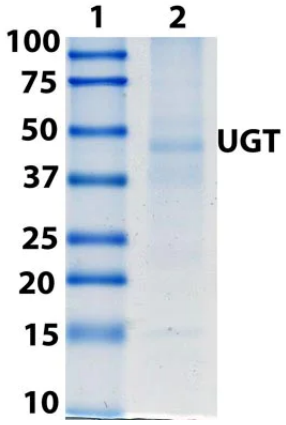
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Flow Cytometry - Anti-UGT antibody [7H2AF11] (ab129729)

UGT Flow Cytometry staining using mouse Anti-UGT antibody

Overlay histogram showing HepG2 cells stained with ab129729 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab129729, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Goat anti-mouse Alexa Fluor® 488 ab150113 at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunoprecipitation - Anti-UGT antibody [7H2AF11] (ab129729)

Immunoprecipitation image of ab129729. UGT antibody immunocaptured 57 kDa UGT from Human liver homogenate (HLH). Gel stained with Coomassie brilliant blue G.

Lane 1: Ladder
Lane 2: Human liver homogenate lysate
All lanes:
Immunoprecipitation - Anti-UGT antibody [7H2AF11] (ab129729)

Predicted band size: 60 kDa

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