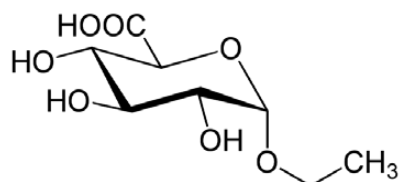


Ethyl Glucuronide (EtG)

Homogeneous Enzyme Immunoassay (HEIA™)

IMMUNALYSIS



Formula: C₈H₁₄O₇

Systematic Name: (2S,3S,4S,5R,6S)-6-ethoxy-3,4,5-trihydroxyoxane-2-carboxylic acid

About Ethyl Glucuronide (EtG): EtG is a minor non-oxidative metabolite of ethyl alcohol which is formed in the body by glucuronidation following exposure to ethanol, such as by drinking alcoholic beverages.

It may be used as a biomarker to test for ethanol use in monitoring programs and is advantageous because it detects recent ingestion for a longer period of time than standard alcohol tests.

Elimination: EtG is formed by in-vivo conjugation of ethanol with glucuronic acid in the presence of endoplasmic reticulum UDP glucuronosyl transferase.¹ Only 0.02-0.04 percent of the alcohol is metabolized by this pathway. EtG can be detected in urine for up to three to five days following consumption of alcohol.²

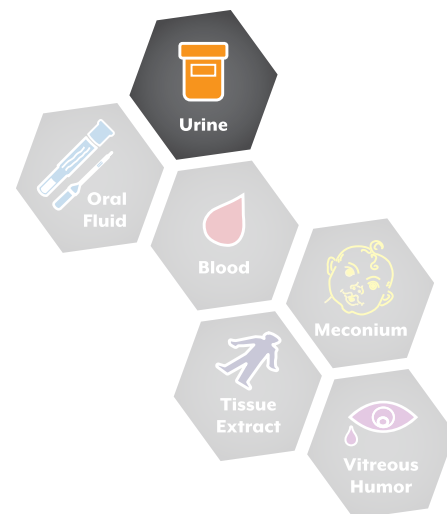
**Improved
Formulation
using Fab Technology**

Dual cutoff at 500 ng/mL or 1000 ng/mL

Fewer unconfirmed positives

Fewer flagged samples

Outperforms the competition





Ethyl Glucuronide (EtG)

(HEIA™)



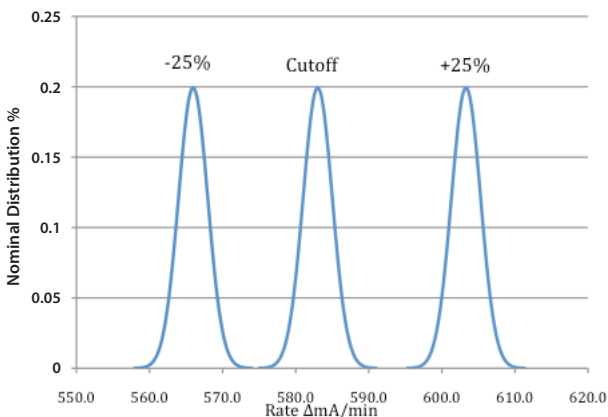
Assay Specifications

Methodology: Homogeneous Enzyme Immunoassay

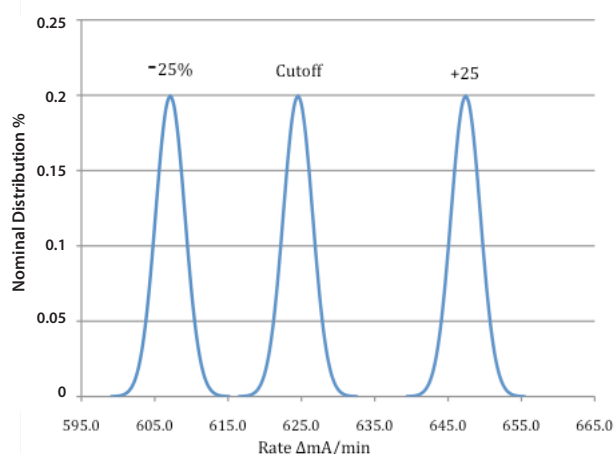
Cutoff: 500 ng/mL or 1000 ng/mL

Mode: Qualitative

Overlap: EtG (500 ng/mL Cutoff)



Overlap: EtG (1000 ng/mL Cutoff)



ORDER - EtG (HEIA)

Catalog #	Description
341-0025 / -0100 / -0500	25 mL / 100 mL / 500 mL Kit
C341-10-1-500	500 ng/mL Calibrator
C341-10-2-500	375 ng/mL and 625 ng/mL Controls
C341-10-1-1000	1000 ng/mL Calibrator
C341-10-2-1000	750 ng/mL and 1250 ng/mL Controls
Neg-10-1	10 mL Negative Urine Control

Cross-Reactivity

Analyte	Analyte Concentration (ng/mL)	Ethyl Glucuronide Equivalent (ng/mL)	Cross-Reactivity (%)
Ethyl Glucuronide	500	500	100
	1000	1000	100
Propyl- β -D-Glucuronide	100,000	500	0.5
	220,000	1000	0.5
Norbuprenorphine Glucuronide	100,000	500	ND
	100,000	1000	ND
Oxazepam Glucuronide	100,000	500	ND
	100,000	1000	ND

Structurally related compounds and volatiles were tested using both 500 ng/mL and 1000 ng/mL cutoff calibrator. The following analytes were tested for cross reactivity at 1,000,000 ng/mL concentration and none were detected: Acetaldehyde, Butanol, Ethanol, Ethylene Glycol, Glucuronic Acid, Isopropanol, Methanol, Morphine 3 β -Glucuronide and Morphine 6 β -Glucuronide.

LC-MS Confirmation (500 ng/mL)

HEIA (500 ng/mL)	LC-MS Confirmation (500 ng/mL)	
	Positive	Negative
Positive	24	1
Negative	3	37

Qualitative Precision

500 ng/mL Cutoff Interday Precision (n = 80)

Concentration (ng/mL)	Rate (Δ mA/min)	SD	CV%
375 Control LOW	544.0	6.3	1.2
500 Calibrator	558.8	6.6	1.2
625 Control HIGH	572.7	5.7	1.0

1000 ng/mL Cutoff Interday Precision (n = 80)

750 Control LOW	602.8	6.7	1.1
1000 Calibrator	618.9	7.2	1.2
1250 Control HIGH	636.7	4.9	0.8