



# Test Definition: ETGS

Ethyl Glucuronide Screen, Random, Urine

## Overview

### Useful For

Screening for drug abuse involving alcohol

### Method Name

Immunoassay

### NY State Available

Yes

## Specimen

### Specimen Type

Urine

### Ordering Guidance

For situations where chain of custody is required, a Chain of Custody Kit (T282) is available. For chain-of-custody testing, order ETGX / Ethyl Glucuronide Confirmation, Chain of Custody, Random, Urine.

### Specimen Required

**Supplies:** Sarstedt Aliquot Tube, 5 mL (T914)

**Collection Container/Tube:** Plastic urine container

**Submission Container/Tube:** Plastic, 5 mL tube

**Specimen Volume:** 2 mL

#### Collection Instructions:

1. Collect a random urine specimen.
2. No preservative.

### Forms

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

### Specimen Minimum Volume

0.5 mL

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
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Urine	Refrigerated (preferred)	28 days	
	Ambient	28 days	
	Frozen	28 days	

## Clinical & Interpretive

### Clinical Information

Ethyl glucuronide is a direct metabolite of ethanol that is formed by enzymatic conjugation of ethanol with glucuronic acid. Alcohol in urine is normally detected for only a few hours, whereas ethyl glucuronide can be detected in the urine for 1 to 3 days.

This procedure uses immunoassay reagents that are designed to produce a negative result when no drugs are present in a natural (ie, unadulterated) specimen of urine; the assay is designed to have a high true-negative rate. Like all immunoassays, it can have false-positives due to cross-reactivity with natural chemicals and drugs other than those they were designed to detect. The immunoassay can also have false negatives due to the antibody's ability to cross-react with different drugs in the class being screened for.

### Reference Values

Negative

Screening cutoff concentration: 500 ng/mL

### Interpretation

This assay only provides a preliminary analytical test result. A more specific alternative method (ie, liquid chromatography tandem mass spectrometry) must be used to obtain a confirmed analytical result. A positive result using the ethyl glucuronide screen indicates only the potential presence of ethyl glucuronide and does not necessarily correlate with the extent of physiological and psychological effects.

### Cautions

Care should be taken when interpreting results since there are many factors (eg, fluid intake and other biologic factors) that may influence a urine test result. It is possible that substances other than those investigated in the specificity study may interfere with the test and cause false-positive or negative results.

### Clinical Reference

- Schmitt G, Aderjan R, Keller T, Wu M. Ethyl glucuronide: an unusual ethanol metabolite in humans. Synthesis, analytical data, and determination in serum and urine. *J Anal Toxicol.* 1995;19(2):91-94. doi:10.1093/jat/19.2.91
- Dahl H, Stephanson N, Beck O, Helander A. Comparison of urinary excretion characteristics of ethanol and ethyl glucuronide. *J Anal Toxicol.* 2002;26:201-104. doi:10.1093/jat/26.4.201
- Wurst FM, Skipper GE, Weinmann W. Ethyl glucuronide--the direct ethanol metabolite on the threshold from science to routine use. *Addiction.* 2003;98 Suppl 2:51-61. doi:10.1046/j.1359-6357.2003.00588.x
- Zimmer H, Schmitt G, Aderjan R. Preliminary immunochemical test for the determination of ethyl glucuronide in serum and urine: comparison of screening method results with gas chromatography-mass spectrometry. *J Anal Toxicol.* 2002;26(1):11-16. doi: 10.1093/jat/26.1.11
- Weinmann W, Schaefer P, Thierauf A, Schreiber A, Wurst FM. Confirmatory analysis of ethylglucuronide in urine by liquid chromatography/electrospray ionization/tandem mass spectrometry according to forensic guidelines. *J Am Soc Mass Spectrom.* 2004;15(2):188-193. doi:10.1016/j.jasms.2003.10.010

6. Langman LJ, Bechtel LK, Holstege CP. Clinical toxicology. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. Tietz Textbook of Laboratory Medicine. 7th ed. Elsevier; 2023:454

## Performance

### Method Description

This assay is a homogeneous enzyme immunoassay technique. The assay will be performed semiquantitatively. The assay is based on competition between free drug in the urine sample, and a drug labeled with the enzyme glucose-6-phosphate dehydrogenase for a fixed amount of specific antibody binding sites. Active enzyme converts nicotinamide adenine dinucleotide (NAD[+]) to NADH, which results in an absorbance change that can be measured spectrophotometrically at 340 nm.(Package insert: ETG. Immunalysis; 04/2019)

### PDF Report

No

### Day(s) Performed

Monday through Saturday

### Report Available

Same day/1 to 2 days

### Specimen Retention Time

14 days

### Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Superior Drive

## Fees & Codes

### Fees

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. It has not been cleared or approved by the US Food and Drug Administration.

### CPT Code Information

80307

### LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
ETGS	Ethyl Glucuronide Screen, U	58375-7

Result ID	Test Result Name	Result LOINC® Value
63420	Ethyl Glucuronide Screen, U	58375-7