MAYO CLINIC LABORATORIES

# Test Definition: ETGSR

Ethyl Glucuronide Screen with Reflex, Random, Urine (Non-Orderable)

## Overview

### Useful For

**Only orderable as part of profile.** For more information see:
ADMPU / Addiction Medicine Profile with Reflex, 22 Drug Classes, High Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine
CSMEU / Controlled Substance Monitoring Enhanced Profile with Reflex, 21 Drug Classes, High Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine
PMHPU / Pain Management Hybrid Profile, 22 Drug Classes, High-Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine

Screening for drug abuse involving alcohol

### Reflex Tests

| Test Id | Reporting Name | Available Separately | Always Performed |
|---|---|---|---|
| ETGC | Ethyl Glucuronide Confirmation, U | Yes | No |

### Testing Algorithm

Testing begins with a screening assay. If the screen is positive, then the liquid chromatography tandem mass spectrometry confirmation with quantification will be performed at an additional charge.

### Method Name

Only orderable as part of profile. For more information see:
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CSMEU / Controlled Substance Monitoring Enhanced Profile with Reflex, 21 Drug Classes, High Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine
PMHPU / Pain Management Hybrid Profile, 22 Drug Classes, High-Resolution Mass Spectrometry and Immunoassay Screen, Random, Urine

Enzyme-Linked Immunosorbent Assay (ELISA)

### NY State Available

Yes

## Specimen

### Specimen Type
Urine

### Specimen Required
Only orderable as part of profile. For more information see:
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### Specimen Minimum Volume
2.5 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 |
|---|---|---|---|
| Urine | Refrigerated (preferred) | 28 days | |
| | Ambient | 28 days | |
| | Frozen | 28 days | |

## Clinical & Interpretive

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

Ethyl glucuronide is a direct metabolite of ethanol 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.

### Reference Values
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Negative

Screening cutoff concentration:
Ethyl glucuronide: 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

1. 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
2. Dahl H, Stephanson N, Beck O, Helander A. Comparison of urinary excretion characteristics of ethanol and ethyl glucuronide. J Anal Toxicol. 2002;26(4):201-204. doi:10.1093/jat/26.4.201
3. 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
4. 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
5. 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:chap 43

## Performance

### Method Description

This assay is a homogeneous enzyme-linked immunosorbent assay technique. The assay is semiquantitative. It 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; 03/2019)

### PDF Report
No

### Day(s) Performed
Monday through Saturday

### Report Available
Same/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 |
|---|---|---|
| ETGSR | Ethyl Glucuronide Scrn w/Reflex, U | 58375-7 |

| Result ID | Test Result Name | Result LOINC® Value |
|---|---|---|
| 616033 | Ethyl Glucuronide Screen, U | 58375-7 |