ARIA DIAGNOSTICS | Provider Reference

Alcohol Biomarker Interpretation Guide

Creatinine-Normalized EtOH & EtG Urine Results

Aria's dual-marker alcohol panel pairs **ethanol (EtOH)** a point-in-time marker of active alcohol (window of 6–12 hours) with **ethyl glucuronide (EtG)**, a direct metabolite that extends detection to approx. 24–80 hours and confirms use between visits. Because urine analyte concentrations rise and fall with a patient's hydration, **urine creatinine is used to normalize interpretation**, flagging concentrated, dilute, or non-physiologic specimens so every result is read in the right context.

How to read: **Pos** = detected **Neg** = not detected "**Any**" = result valid regardless of the other marker. Thresholds: EtOH ≥25 mg/dL • EtG ≥500 ng/mL

Creatinine	Ethanol ≥25 mg/dL	EtG ≥500 ng/mL	Interpretation / Potential Cause
Above range — concentrated (>500 mg/dL)	Neg	Neg	No alcohol biomarkers detected in a concentrated specimen. The negative result is reliable and consistent with abstinence within the detection windows.
Above range — concentrated	Any	Pos	Alcohol biomarkers detected; result remains valid. Because the specimen is concentrated, absolute analyte concentrations may be elevated by hydration status.
Within reference range	Neg	Neg	No alcohol biomarkers detected; result is consistent with abstinence within the detection windows.
Within reference range	Pos	Pos	Parent ethanol and EtG both detected; consistent with recent alcohol use (hours to ~3 days).
Within reference range	Neg	Pos	EtG detected without parent ethanol; consistent with alcohol use approximately 1–3 days prior.
Within reference range	Pos	Neg	Parent ethanol without EtG; consistent with possible post-collection (in vitro) ethanol formation or a specimen-integrity issue, since EtG is not produced by fermentation.
Below range — dilute	Neg	Neg	Dilute specimen; a negative result does not exclude alcohol use, since dilution lowers analyte concentration. Recollection is recommended.
Below range — dilute	Any	Pos	Alcohol use detected despite dilution; the positive result remains valid. Below-reference-range status is noted.
Markedly below range (<2 mg/dL)	Any	Any	Specimen is not consistent with normal human urine; results are uninterpretable. Recollection under direct observation is recommended.

KEY POINTS

- **EtG positive with EtOH negative** is the most common finding of concern — past-day use without current impairment.
- **EtOH positive with EtG negative** may reflect in vitro (post-collection) ethanol formation, since fermentation does not produce EtG — assess specimen integrity.
- **Dilute specimens lower analyte levels**; a negative does not exclude use. Creatinine <2 mg/dL is non-physiologic and warrants recollection under direct observation.

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For clinical reference and specimen-interpretation support. Detection windows are approximate and vary with dose, frequency, and metabolism. Contact the laboratory for case-specific interpretation.