

COPEPTIN

(SURROGATE OF
MEASURE OF ANTI-
DIURETIC HORMONE)

PLASMA/
SERUM

Orderable - COPEP

Turnaround Time: 5 days

Alternate Name(s):

ADH
Antidiuretic hormone
Vasopressin
Arginine Vasopressin
AVP
ProAVP

Specimen:

| Adult | Pediatric |
|---|---|
| 4.5 mL Light Green top (Li-Heparin) Vacutainer tube | 0-2 years: 0.5 mL Light Green top (Li-Heparin) Microtainer 2-10 years: 3 mL Light Green top (Li-Heparin) Vacutainer tube |
| Red, Gold, or Lavender (EDTA) top tubes are also acceptable. | |

Collection Information:

Minimum volume of plasma or serum required is 500 µL for adult samples or 250 µL for pediatric samples.

Reference Ranges:

ADULT (>=18 YEARS):

Reference Interval (Non-Stimulated, Non-Fasting): <13.1 pmol/L (Keller T et al., JACC 2010; 55(19):2096-2106)

Nephrogenic Diabetes Insipidus (DI):

Baseline copeptin >=21.4 pmol/L in adults with polyuria-polydipsia syndrome had 100% sensitivity (sens) and specificity (spec) (Timper K et al., JCEM 2015; 100(6):2268-2274)

Central DI:

* Following hypertonic saline infusion, copeptin <=4.9 pmol/L identified



Laboratory:
Endocrinology Lab



Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
Thermo Fisher
Fluorescent Immunoassay



Test Schedule:
Monday - Friday
0800-1600

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complete/partial central DI (vs. primary polydipsia (PP)) with 93% sens and 100% spec (Fenske W et al., NEJM 2018; 379:428-439)

* At 60 min following arginine stimulation, copeptin ≤ 3.8 pmol/L identified complete/partial central DI (vs. PP) with 93% sens and 92% spec (Winzeler B et al., Lancet 2019; 394(10198):587-595)

PEDIATRIC (<18 YEARS):

Reference Interval (Non-Stimulated, Non-Fasting): <14.5 pmol/L (Du J-M et al., Peptides 2013; 45:61-65)

Copeptin may be elevated at birth (<3 days) with perinatal stress (Burckhardt M-A et al., JCEM 2014; 99(9):E1750-E1753)

Baseline Copeptin in Children with Polyuria-Polydipsia Syndrome:

Nephrogenic DI: >20 pmol/L

For central DI, ≤ 3.5 pmol/L had 100% sens and 87% spec (so central DI excluded at >3.5 pmol/L); ≤ 1.1 pmol/L had 29% sens and 100% spec (so PP excluded) (Bonnet L et al., ClinEndo 2022; 96:47-53)

Stimulated Copeptin in Children (e.g. Arginine, Water Deprivation, or Hypernatremia):

Complete Central DI: ≤ 3.5 pmol/L

Partial or Complete Central DI: ≤ 4.9 pmol/L

Sens 88-100%, spec 66-80% (Binder G et al., ClinEndo 2023; 98:548-553; Tuli G et al., ClinEndo 2018; 88:873-879; Al Nofal A et al., JPEM 2023; 36(5):492-499)

Storage and Shipment:

Store and ship plasma or serum frozen.

Comments:

Osmolality measurement is no longer performed as part of copeptin testing. To aid in interpretation of copeptin results, it is recommended that osmolality be ordered separately and tested at the laboratory where sample collection is performed.