Clinical Use
- Diagnose central diabetes insipidus (DI)
- Differential diagnosis of central DI vs nephrogenic DI
- Confirm syndrome of inappropriate ADH secretion (SIADH) diagnosis

Reference Range
AVP 1-112 pg/mL
Osmolality 50-1200 mOsm/kg

Interpretive Information
- Low AVP and urine osmolality = central DI
- High AVP and low urine osmolality = nephrogenic DI
- Normal AVP despite low serum osmolality = SIADH; in SIADH, the kidney responds normally to AVP

Clinical Background
Arginine vasopressin (AVP), also known as antidiuretic hormone (ADH), is a 9-amino acid polypeptide synthesized by the hypothalamus and stored and secreted by the posterior pituitary. Secretion is regulated by osmoreceptors and volume receptors and is increased by dehydration or increased blood osmolality. Conversely, secretion is decreased by increased blood volume or decreased blood osmolality. AVP acts primarily on the kidney, where it exerts an antidiuretic effect.

AVP plasma concentrations correlate with osmolality. Significant amounts of AVP are filtered via the glomerulus and appear in urine. Concentrations are higher in urine than in plasma. Urine AVP provides an integrated view of recent blood levels. Urine AVP determinations are useful in the differential diagnosis of hyponatremic states.

Method
AVP
- Radioimmunoassay (RIA)
- Analytical sensitivity: 1.0 pg/mL

Osmolality
- Freezing point depression

Specimen Requirements
3 mL refrigerated random urine
1.2 mL minimum
Do not use a preservative.