



مختبر فرايبورج الطبي الشرق الأوسط (ذ.م.ع)  
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## Copeptin – replaces the ADH test Available from November 2011 at FML

**Please note that ADH testing is no longer available and has been replaced by the more stable and accurate CT (carboxy-terminal) pro-vasopressin, also known as copeptin.**

CT-pro-vasopressin (copeptin) is formed from the C-terminal part of the pro-hormone of vasopressin (ADH) and is released by processing of the pro-hormone together with vasopressin in equimolar amounts. The physiological significance of copeptin is largely unknown. Copeptin behaves identically to vasopressin during changes in osmolality and volume. The endocrinological evaluation of copeptin corresponds to that of vasopressin. Approximately 90% of vasopressin is bound to thrombocytes, which results in lower measurable concentrations of vasopressin as the thrombocyte-bound vasopressin is removed during centrifugation or if the sample is stored too long before centrifugation. Because of this and the significantly higher stability, even at low osmolalities plausible results can be obtained for copeptin.

The reference ranges for copeptin are also related to serum osmolality, see table below. To measure the copeptin concentration, the sample does not need to be frozen and serum can be used. The osmolality can be determined from the same serum sample and must always be measured simultaneously to be able to interpret the results correctly.

Indication: Polyuria, exsiccosis, electrolyte deficiency

Preanalytics: In contrast to vasopressin, copeptin is stable in serum and plasma, whereas vasopressin is extremely instable even at -20C. Therefore, one sample of serum is suitable and sufficient for measuring both copeptin and osmolality.

Material: 1 ml serum  
Method: LIA  
TAT: Germany, 5-10 days  
Dimension: pmol/l  
Ref.- range: 1.0 – 28.2 (see table)

Osmolality (mosmol/kg)	Copeptin (pmol/l)
270 – 280	0.81 – 11.6
281 – 285	1.0 – 13.7
286 – 290	1.5 – 15.3
291 – 295	2.3 – 24.5
296 - 300	2.4 – 28.2

Note: Values below 2.6 pmol/l (after 8 hours of restricted fluid intake) point to Diabetes insipidus centralis.