

Thermo Scientific B·R·A·H·M·S Copeptin proAVP

Early rule out of acute myocardial infarction (AMI)
and direct testing for diabetes insipidus



Thermo Scientific™ B·R·A·H·M·S™ Copeptin pro AVP is an automated immunofluorescent assay for the quantitative determination of Copeptin (C-terminal pro Arginine Vasopressin, CT-proAVP) in human serum, heparin and EDTA plasma¹

- Stable analyte even at room temperature
- Short incubation time: 14 min
- Small sample volume: 50 µL
- High sensitivity (FAS: 1,08 pmol/L)
- Developed for KRYPTOR compact PLUS

Clinical Interest

Copeptin and Vasopressin (AVP, ADH) are released from the same precursor hormone in equimolar amounts into the bloodstream, hence Copeptin can be used as a surrogate marker for vasopressin and is indicated:

- in combination with Troponin to safely and effectively rule-out Acute Myocardial Infarction on admission with the first blood sample^{2, 4}.
- in the differential diagnosis of patient with water balance disorders like:
 - Polyuria-polydipsia syndrome (Diabetes Insipidus)³
 - Syndrome of inappropriate ADH secretion (SIADH)
 - Patients undergoing Pituitary Surgery⁵

Ease of Handling

Sample volume	50 µL
Sample type	Serum, plasma (EDTA, heparin)
Incubation time	14 min
Direct measurement	0.7...500 pmol/L
Measuring range with automatic dilution	0.7...2000 pmol/L
Detection limit	0.69 pmol/L
Kit stability on board	29 days
Calibrator	1 point
Calibration stability	15 days
Functional assay sensitivity	1.08 pmol/L
Conversion factor	1 pmol/L = 4.02 pg/mL

Excellent Clinical Results

Early and Safe Rule Out of Acute Myocardial Infarction on admission with the first blood sample.

A cut-off of Copeptin at **10 pmol/L** is recommended to rule-out AMI in combination with a negative Troponin. A value of 10 pmol/L or above is considered as positive result.^{3,4}

Efficiently assess the differential diagnosis of polyuria-polydipsia syndrome.

Baseline Copeptin value of \geq **21.4 pmol/L** identify patients with Nephrogenic Diabetes Insipidus with 100% Sensitivity and Specificity.³

A second Copeptin measurement after fluid deprivation provides the following excellent results:

	2nd Copeptin (after Fluid Deprivation)	
Sensitivity	< 4,9 pmol/L	\geq 4,9 pmol/L
Specificity	96%	94%
	94%	96%
	↓	↓
	Complete or partial central DI	Primary Polydipsia

Excellent Precision

Sensitivity

The Functional Assay Sensitivity (FAS), detected by inter-assay precision of 20 %, has been assessed as being **1.08 pmol/L**.

Precision

Concentration range	Intra-assay CV %	Inter-assay CV %
2.0 – 4.0 pmol/L	< 15.0 %	< 18.0 %
4.0 – 15 pmol/L	< 8.0 %	< 10.0 %
15 – 50 pmol/l	< 4.0 %	< 5.0 %
> 50 pmol/L	< 3.0 %	< 5.0 %
Out of range samples (> 500 pmol/L)	< 4.0 %	< 6.0 %

Reference Ranges

Copeptin values according to normal plasma osmolality:

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

References

- Morgenthaler NG, Struck J, Jochberger S, Dünser MW, Copeptin: clinical use of a new biomarker. Trends in Endocrinology and Metabolism 2008; 19(2): 43-9
- Möckel M, Searle J, Hamm C, Slagman A, Blankenberg S, Huber K, Katus H, Liebetrau C, Müller C, Müller R, Peitsmeyer P, von Recum J, Tajsic M, Vollert JO, Giannitsis E. Early discharge using single cardiac troponin and copeptin testing in patients with suspected acute coronary syndrome (ACS): a randomized, controlled clinical process study. Eur Heart J. 2015 Feb 7; 36(6): 369–376
- Timper K, Fenske W, Kühn F, Frech N, Arici B, Rutishauser J, Kopp P, Allolio B, Stettler C, Müller B, Katan M, Christ-Crain M. Diagnostic Accuracy of Copeptin in the Differential Diagnosis of the Polyuriapolydipsia Syndrome: A Prospective Multicenter Study. J Clin Endocrinol Metab. 2015 Jun; 100(6):2268-74
- Roffi M, Patrono C, Collet JP, Mueller C, Valgimigli M, Andreotti F, Bax JJ, Borger MA, Brotons C, Chew DP, Gencer B, Hasenfuss G, Kjeldsen K, Lancellotti P, Landmesser U, Mehilli J, Mukherjee D, Storey RF, Windecker S. 2015 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: Task Force for the Management of Acute Coronary Syndromes in Patients Presenting without Persistent ST-Segment Elevation of the European Society of Cardiology (ESC). Eur Heart J. 2015 Aug 29; doi: http://dx.doi.org/10.1093/eurheartj/ehv320
- Winzler B, Zweifel C, Nigro N, Arici B, Bally M, Schuetz P, Blum CA, Kelly C, Berkmann S, Huber A, Gentili F, Zadeh G, Landolt H, Mariani L, Müller B, Christ-Crain M. Postoperative Copeptin Concentration Predicts Diabetes Insipidus After Pituitary Surgery. J Clin Endocrinol Metab 2015; http://dx.doi.org/10.1210/jc.2014-4527

Products

Article number	Description
857.050	B-R-A-H-M-S Copeptin proAVP Kit, reagents for 50 determinations
85791	B-R-A-H-M-S Copeptin proAVP Calibrator kit, 6 vials
85792	B-R-A-H-M-S Copeptin proAVP Control kit, 2 levels (3 vials per level)

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Clinical Diagnostics

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