

## **TEST: ANTI-MULLERIAN HORMONE**

### **PRINCIPLE:**

Anti-Müllerian hormone (AMH) is a protein which in women is exclusively produced by the granulosa cells of the ovaries. The level of AMH in serum or plasma reflects the number of antral follicles, thus serving as an indicator for ovarian reserve (egg supply) and helping predict the response to fertility treatment. Serum AMH level is relatively stable throughout the menstrual cycle, unlike FSH and other hormones. Serum AMH levels peak around age 25 and then decline, but differ greatly between women of the same age, and thus this marker is especially useful in assessing pregnancy potential as well as predicting age at menopause. An AMH value  $<0.7$  ng/ml has been correlated with reduced (but not negligible) potential for pregnancy. AMH value  $>3.4$  ng/ml is correlated with elevated risk for ovarian hyperstimulation syndrome (OHSS). With regard to other conditions, patients with polycystic ovary syndrome (PCOS) have AMH levels 2-5 fold higher than the general population, and IVF patients experiencing OHSS may show a significant drop in AMH as a result of antral follicle maturation.

### **SPECIMEN REQUIREMENTS:**

2ml collected in a serum separator tube (gel barrier). Separate serum from cells ASAP or within 2 hours of collection by centrifugation. Stability after separation from cells: Ambient: 24 Hours; Refrigerated: 6 Days; Frozen: 1 year (avoid repeated freeze/thaw cycles).

**REJECTION CRITERIA:** Plasma or other body fluids. Gross hemolysis

**METHOD:** Enhanced Chemiluminescence.

### **REFERENCES:**

1. Humaidan, P., Quartarolo, J., and E.G. Papanikolaou (2010). Preventing ovarian hyperstimulation syndrome: guidance for the clinician. *Fertil. Steril.* 94(2):389-400.
2. Weghofer, A., Dietrich, W., Barad, D.H., and N. Gleicher (2011). Live birth chances in women with extremely low serum anti-Müllerian hormone levels. *Hum. Reprod.* 26(7):1905-1909.
3. Lie Fong, S., Visser, J.A., Welt, C.K., et al (2012). Serum anti-Müllerian hormone levels in healthy females: a nomogram ranging from infancy to adulthood. *J. Clin. Endocrinol. Metab.* 97(12):4650-4655.
4. Dewailly, D., Anderson, C.Y., Balen, A., et al (2014). The physiology and clinical utility of anti-Müllerian hormone in women. *Hum. Reprod. Updates* 20(3):370-385.
5. Broer, S., Broekmans, F.J.M., Laven, J.S.E., and B.C.J.M. Fraser (2014). Anti-Müllerian hormone: ovarian reserve testing and its potential clinical implications. *Hum. Reprod. Updates* 20(5):688-701.

### **NORMAL RANGE:**

Women aged 13-45 0.9-9.5 ng/mL (95% confidence interval)  
>45 years  $< 1.0$  ng/mL

**Turnaround time:** 3 business days