

ANTI-MÜLLERIAN HORMONE ASSAY

Helping you provide better patient care



Ultrasensitive Anti-Müllerian Hormone Assay for the IVF Specialist

Background

Anti-Müllerian hormone (AMH), also known as Müllerian-inhibiting substance (MIS), is produced by granulosa cells of the preantral and antral follicles in females.¹ Serum or plasma levels of AMH in the female are generally detectable from the perinatal stage to menopause. AMH levels peak in the twenties in healthy women and decline gradually but significantly beginning approximately in the late thirties.² Levels of AMH are non-measurable after menopause.²

Several clinical applications have been identified which use serum AMH levels. In particular, AMH levels have been shown to reflect the ovarian follicular reserve,³⁻⁵ and diminished ovarian reserve is associated with reduced potential for a successful live birth. Decreasing AMH levels have also been seen to correlate with reduced response potential of ovarian stimulation and reduced retrievable oocytes.^{4,6} AMH levels are known to correlate with reproductive health and the onset of menopause. In addition, they are useful as an indicator/marker for response to in vitro fertilization, polycystic ovary syndrome (PCOS), and gonadotoxic cancer treatment or ovarian surgery.⁷

Clinical Applications for the Measurement of AMH

- Investigation of the ovarian reserve in fertility clinic patients^{2,7,8}
- Assessment of the menopausal transition in women^{1,8}
- Assessing ovarian function in patients with PCOS^{2,7}

Interpretation

- An AMH concentration of ≥ 1.06 ng/mL is correlated with a better response to ovarian stimulation and produces more retrievable oocytes and higher odds of live birth.⁶
- A falling AMH level has been found to represent the decline in reproductive capacity more than other endocrine biomarkers or age.^{1,8} Low AMH levels can be used in the diagnosis of premature loss of follicle reserve.²
- The optimal AMH concentrations for predicting the response to in vitro fertilization have not yet been established; however, low AMH levels may predict a lower follicle response.⁹
- Females at risk of ovarian hyperstimulation syndrome or polycystic ovary syndrome (PCOS) may exhibit elevated serum AMH concentrations.²

Anti-Müllerian Hormone (AMH) (Endocrine Sciences) 500183

LabCorp offers a test for the quantitative measurement of AMH using an immunoassay that employs electrochemiluminescent technology. The assay is highly sensitive and able to measure in the picogram/mL range.

Table 1: Age-stratified female reference intervals

Age	Range (ng/mL)	Median
Birth – 6 Years	0.53 – 7.78	2.85
7 – 19 Years	1.05 – 12.86	5.23
20 – 25 Years	1.23 – 11.51	4.70
26 – 30 Years	1.03 – 11.10	4.20
31 – 35 Years	0.66 – 8.75	3.00
36 – 40 Years	0.42 – 8.34	1.69
41 – 46 Years	0.26 – 5.81	0.58
47 – 54 Years	≤ 0.82	< 0.03
55 – 97 Years	≤ 0.18	< 0.03

Endocrine Sciences direct accounts:

Please use the following code to order directly from the laboratory via Esoterix services: 500043

References

1. van Rooij IA, Broekmans FJ, Scheffer GJ, et al. Serum antimüllerian hormone levels best reflect the reproductive decline with age in normal women with proven fertility: A longitudinal study. *Fertil Steril*. 2005; 83(4):979-987.
2. Ledger WL. Clinical utility of measurement of Anti-Müllerian hormone in reproductive endocrinology. *J Clin Endocrinol Metab*. 2010 Dec; 95(12):5144-5154.
3. Karkanaki A, Vosnakis C, Panidis D. The clinical significance of anti-Müllerian hormone evaluation in gynecological endocrinology. *Hormones (Athens)*. 2011 Apr-Jun; 10(2): 95-103.
4. Fleming R, Broekmans F, Calhaz-Jorge C, et al. Can anti-Müllerian hormone concentrations be used to determine gonadotrophin dose and treatment protocol for ovarian stimulation? *Reprod Biomed Online*. 2013 May; 26(5):431-439.
5. La Marca A, Sighinolfi G, Radi D, et al. Anti-Müllerian hormone (AMH) as a predictive marker in assisted reproductive technology (ART). *Hum Reprod Update*. 2010 Mar-Apr; 16(2):113-130.
6. Gleicher N, Weghofer A, Barad DH. Anti-Müllerian hormone (AMH) defines, independent of age, low versus good live-birth chances in women with severely diminished ovarian reserve. *Fertil Steril*. 2010 Dec; 94(7): 2824-2827.
7. Broer SL, Broekmans FJ, Laven JS, Fauser BC. Anti-Müllerian hormone: Ovarian reserve testing and its potential clinical implications. *Hum Reprod Update*. 2014 Sep-Oct; 20(5):688-701.
8. van Disseldorp J, Faddy MJ, Themmen APN, et al. Relationship of serum antimüllerian hormone concentration to age at menopause. *J Clin Endocrinol Metab*. 2008 Jun; 93(6):2129-2134.
9. La Marca A, Broekmans FJ, Volpe A, Fauser BC, Macklon NS; ESHRE Special Interest Group for Reproductive Endocrinology - AMH Round Table. Anti-Müllerian hormone (AMH): What do we still need to know? *Hum Reprod*. 2009 Sep; 24(9):2264-2275.

Please consult the online Test Menu at www.LabCorp.com for specimen requirements and CPT code information.



www.LabCorp.com