Anti Muellerian Hormone AMH

General:

In females: AMH is a glycoprotein and belongs to the family of transforming growth factor beta superfamily. AMH drives the differentiation in the fetus; in adulthood its role is poorly understood. It is secreted in granulosa cells (highest in puberty). De Vet et al, 2002: 'AMH levels decrease progressively along with age and become undetectable after menopause.' Seifer et al, 2002: showed positive relation with number of oocytes. Fanchin et al, 2003: 'AMH is more strongly related to ovarian follicular status than inhibin B, estradiol, FSH and LH.' Recently, the antiMüllerian hormone (AMH), has been evaluated as a marker of ovarian response. Serum AMH levels have been measured at frequent time points during the menstrual cycle, suggesting the complete absence of fluctuation, making it an attractive determinant of ovarian activity and indicating that AMH can be relied on as a cycle-independent marker for ovarian reserve. La Marca et al, 2006: 'Serum anti-Müllerian hormone throughout the human menstrual cycle' and Hehenkamp et al, 2006: 'Anti-Müllerian hormone levels in the spontaneous menstrual cycle do not show substantial fluctuation.'

Repeated studies have demonstrated a strong correlation between serum AMH levels and ovarian response to gonadotrophin stimulation. La Marca et al, 2010: 'Anti-Mullerian hormone (AMH) as a predictive marker in assisted reproductive technology (ART).Overall, AMH seems to be a reliable serum marker of ovarian response that can be measured independently of the day of the menstrual cycle.

In males: Anti-Muellerian hormone (AMH) is produced by the testes from embryonic life to puberty. In the embryo, AMH initiates Muellerian duct regression, in pre-pubertal boys AMH is involved in testicular development and function. AMH is secreted by Sertoli cells. It can be used to verify the existence of testes in cryptorchidism. In obstructive azoospermia AMH is not detectable in seminal plasma and it is decreased in serum of patients with spermatogenesis disorders. Reduced serum AMH is significantly associated with abnormal spermiogram parameters such as abnormal sperm morphology, reduced motility, and a reduced fertilization rate. Low serum AMH indicates maturation disorders such as spermatogenesis arrest, Sertoli cell-only syndrome and tubular atrophy. In addition to inhibin B, FSH, and testosterone, the marker AMH provides significant additional information about the maturation level of spermatogenesis and is useful to differentiate obstructive from non-obstructive azoospermia.

Material:	1 ml serum
Preanalytics:	AMH is stable for 24 h at 4-8°C. If transportation time is > 24 h, sample must be frozen for dispatch! Unfrozen samples can cause a decrease of the AMH.
Stability:	5 days at 2 to 8°C
TAT:	1-3 days, FML
Method:	EIA
Units:	ng/ml
Ref.- range:	see report

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