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Human Activin A ELISA Kit

产品编号: bsk11079
种属: Human
线性范围: 125 - 8,000 pg/mL
应用范围: S/P/CC
检测限: 60 pg/mL
适用样品基质: cell culture supernates, serum, and plasma.
保存条件: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles (Shipped with wet ice.).
产品介绍: Activin and inhibin are two closely related protein complexes that have almost directly opposite biological effects. Identified in 1986,activin enhances FSH biosynthesis and secretion, and participates in the regulation of the menstrual cycle. Many other functions have been found to be exerted by activin, including roles in cell proliferation, differentiation, apoptosis,metabolism, homeostasis, immune response, wound repair,and endocrine function. Conversely, inhibin downregulates FSH synthesis and inhibits FSH secretion.The existence of inhibin was hypothesized as early as 1916; however, it was not demonstrated to exist until Neena Schwartz and Cornelia Channing's work in the mid 1970s, after which both proteins were molecularly characterized ten years later. Activin is a dimer composed of two identical or very similar beta subunits. Inhibin is also a dimer wherein the first component is a beta subunit similar or identical to the beta subunit in activin. However, in contrast to activin, the second component of the inhibin dimer is a more distantly-related alpha subunit.[7][8] Activin, inhibin and a number of other structurally related proteins such as anti-Müllerian hormone, bone morphogenetic protein, and growth differentiation factor belong to the TGF-β protein superfamily. Activin is produced in the gonads, pituitary gland, placenta, and other organs: ☒In the ovarian follicle, activin increases FSH binding and FSH-induced aromatization. It participates in androgen synthesis enhancing LH action in the ovary and testis. In the male, activin enhances spermatogenesis. ☒Activin is strongly expressed in wounded skin, and overexpression of activin in epidermis of transgenic mice improves wound healing and enhances scar formation. Its action in wound repair and skin morphogenesis is through stimulation of keratinocytes and stromal cells in a dose-dependent manner. ☒Activin also regulates the morphogenesis of branching organs such as the prostate, lung, and especially kidney. Activin A increased the expression level of type-I collagen suggesting that activin A acts as a potent activator of fibroblasts. ☒Lack of activin during development results in neural developmental defects. ☒Recent results suggest activin A plays a role specifically in lung cancer metastasis and possibly the metastasis of

other forms of cancer. Activin A is more plentiful in the adipose tissue of obese, compared to lean persons.Activin A promotes the proliferation of adipocyte progenitor cells, while inhibiting their differentiation into adipocytes.Activin A also increases inflammatory cytokines in macrophages. A mutation in the gene for the activin receptor ACVR1 results in fibrodysplasia ossificans progressiva, a fatal disease that causes muscle and soft tissue to gradually be replaced by bone tissue.This condition is characterized by the formation of an extra skeleton that produces immobilization and eventually death by suffocation.The mutation in ACVR1 causes activin A, which normally acts as an antagonist of the receptor and blocks osteogenesis (bone growth), to behave as an agonist of the receptor and to induce hyperactive bone growth.On 2 September 2015, Regeneron announced that they had developed an antibody for activin A that effectively cures the disease in an animal model of the condition.