Follicle stimulating hormone (FSH) is a hormone synthesised and secreted by gonadotropes in the anterior pituitary gland. FSH and LH act synergistically in reproduction: In women, in the ovary FSH stimulates the growth of immature Graafian follicles to maturation. As the follicle grows it releases inhibin, which shuts off the FSH production. In men, FSH enhances the production of androgen-binding protein by the Sertoli cells of the testes and is critical for spermatogenesis. In both males and females, FSH stimulates the maturation of germ cells. In females, FSH initiates follicular growth, specifically affecting granulosa cells. With the concomitant rise in inhibin B, FSH levels then decline in the late follicular phase. This seems to be critical in selecting only the most advanced follicle to proceed to ovulation. At the end of the luteal phase, there is a slight rise in FSH that seems to be of importance to start the next ovulatory cycle. Like its partner, LH, FSH release at the pituitary gland is controlled by pulses of gonadotropin-releasing hormone (GnRH). Those pulses, in turn, are subject to the estrogen feedback from the gonads.

Human recombinant FSH produced in HEK 293 cells is a heterodimeric, glycosylated polypeptide chain with a total Mw of 38 kDa. Host cells were transfected with two expression plasmids encoding the human FSH-alpha chain (Accession # P01215; Met1-Ser116) and the human FSH-beta chain (Accession # P01225; Met1-Glu129). It has been purified by proprietary chromatographic techniques.

### Quantity
10 µg

### Molecular Mass
see Description

### Source
HEK cells

### Biological-Activity
The ED₅₀ as determined by cAMP accumulation in human FSH Receptor transfected Chinese Hamster Ovary (CHO) cells was found to be 80-450 pg/ml.

### Specific Activity
see below

### Formulation
White (freeze-dried) powder. The recombinant FSH was lyophilized from a sterile-filtered (2 µm filter), concentrated (1 mg/ml) protein solution in PBS (pH 7.4).

### Reconstitution
Please Note: Always centrifuge product briefly before opening the vial. The lyophilized protein should be reconstituted in sterile, ultra-pure water to a concentration of 0.1-1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at -20°C for future use.

### Purity
Greater than 95% (determined by SDS-PAGE analysis).

### Endotoxin Level
< 0.1 ng per µg of rHu protein (1EU/µg).

### Storage
The lyophilized protein, though stable at room temperature for up to 3 weeks, is best stored desiccated at -20°C. Reconstituted protein should be used immediately or stored long-term in undiluted working aliquots at -20°C. For long term storage it is recommended to add a carrier protein (0.1% endotoxin-free HSA or BSA; e.g. Cat.No. C-69500A). Avoid repeated freeze / thaw cycles.