

#### DESCRIPTION

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived
	<div style="border: 1px solid black; padding: 5px; text-align: center;">           Human FSH <math>\alpha</math>            Ala25 - Ser116            Accession # P01215         </div>
	<div style="border: 1px solid black; padding: 5px; text-align: center;">           Human FSH <math>\beta</math>            Cys21 - Glu129            Accession # P01225         </div>
	N-terminus <span style="margin-left: 150px;">C-terminus</span>

**N-terminal Sequence Analysis** Ala25 (FSH  $\alpha$ ) & Cys21 (FSH  $\beta$ )

**Structure / Form** Noncovalently-linked heterodimer

**Predicted Molecular Mass** 10.2 kDa (FSH  $\alpha$ ) & 12.4 kDa (FSH  $\beta$ )

#### SPECIFICATIONS

**SDS-PAGE** 20-25 kDa, reducing conditions

**Activity** Measured by its ability to induce cAMP accumulation in HEK293 human embryonic kidney cells transfected with human FSH R. The ED<sub>50</sub> for this effect is typically 60-480 pg/mL.

**Endotoxin Level** <1.0 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution in PBS. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 100  $\mu$ g/mL in PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

#### BACKGROUND

Follicle-stimulating hormone (FSH; also follitropin) is a 33 kDa heterodimer belonging to the glycoprotein hormones subunit beta family (1). The heterodimer is composed of two glycoproteins linked noncovalently: a common alpha subunit, which is also a component of luteinizing hormone, thyroid stimulating hormone, and chorionic gonadotropin; and a unique beta subunit that confers the protein's specific biological action and is responsible for the interaction with FSH-receptor. The alpha subunit is 20 kDa and is synthesized as a 116 amino acid (aa) precursor that contains a 24 aa signal sequence and a 92 aa mature chain, which contains two potential sites of N-linked glycosylation (1, 2). The beta subunit is 23 kDa and is synthesized as a 129 aa precursor with an 18 aa signal sequence and a 111 aa mature chain, which also contains two potential sites of N-linked glycosylation (1). Human FSH beta shares approximately 90% aa sequence identity with mouse and rat FSH beta. FSH is secreted by gonadotropes of the anterior pituitary gland. Its release is controlled by pulses of gonadotropin-releasing hormone (GnRH), and those pulses, in turn, are subject to the estrogen feedback from the gonads. FSH regulates the development, growth, pubertal maturation, and reproductive processes of the human body. It promotes follicle maturation and spermatogenesis through interactions with FSH-receptor.

#### References:

1. Van de Wiel, D.F. *et al.* (1998) J. Mol. Endocrinol. **20**:83.
2. Rathnam, P. and B.B. Saxena (1975) J. Biol. Chem. **250**:6735.