Human LHβ Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF8016

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human LHβ in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human LHβ Ser21-Leu141 Accession # P01229
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

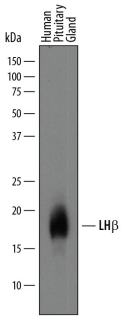
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

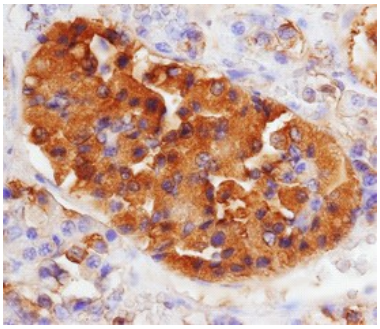
DATA

Western Blot



Detection of Human LHβ by Western Blot. Western blot shows lysates of human pituitary gland tissue. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human LHβ Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8016) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for LHβ at approximately 17-19 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



LHβ in Human Pituitary Adenoma. LHβ was detected in immersion fixed paraffin-embedded sections of human pituitary adenoma using Sheep Anti-Human LHβ Antigen Affinity-purified Polyclonal Antibody (Catalog # AF8016) at 1 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm of pituitary cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

LHβ (Luteinizing Hormone subunit beta; also LSH-B and lutropin beta chain) is a 17-19 kDa member of the glycoprotein hormone subunit beta family, cysteine knot superfamily of proteins. It is synthesized by gonadotrophs in the anterior pituitary, and noncovalently heterodimerizes with the 21-23 kDa common glycoprotein alpha chain, forming 40-42 kDa LH. LH has effects on at least three organ systems. In the ovary, LH induces the synthesis of testosterone, which is quickly converted to estradiol. Estradiol subsequently induces a bolus release of LH from the pituitary, resulting in ovulation. LH now drives the formation of the corpus luteum (or yellow body, from luteus meaning yellow) with the production of progesterone. In the testis, LH induces Leydig cell production of testosterone that activates genes in Sertoli cells drives sperm formation. And in the adrenal, LH appears to induce secretion of sulfated DHEA, a precursor to androgens. Mature human LHβ is 121 amino acids (aa) in length (aa 21-141). It contains three intrachain disulfide bonds that form a cysteine knot, plus one utilized N-linked glycosylation site at Asn50 that incorporates both fucose and sulfate on galactose. The presence of carbohydrate is necessary for bioactivity. Multiple isoforms of LH exist, and likely represent variations in carbohydrate structure. Full-length human LHβ shares 82% and 72% aa sequence identity between human chorionic gonadotrophin/CGβ and mouse LHβ subunits, respectively.

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