Human Chorionic Gonadotropin α/β (HCG) Alexa Fluor® 594-conjugated Antibody

Monoclonal Rabbit IgG Clone # 1270D
Catalog Number: FAB97702T
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Chorionic Gonadotropin β in direct ELISAs.
Source	Monoclonal Rabbit IgG Clone # 1270D
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived transfected with human Chorionic Gonadotropin β Accession # P0DN86 nad P0DN87
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

ELISA	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

HCG (human chorionic gonadotropin) is a member of the glycoprotein hormone (GPH) family within the cystine knot growth factor superfamily (1-5). It is a heterodimer of a 23-32 kDa unique subunit, CGb, with a 14-22 kDa alpha subunit, CGa (common glycoprotein hormone alpha) that is shared with GPH family members lutropin (LH), follitropin (FSH) and thyroid stimulating hormone (TSH) (1, 2). CGb occurs only in higher primates, while the most closely related hormone, LHb, is expressed in all mammals (6). Human CGb and LHb share a receptor, LH/CG-R or LHR, and show 86% aa sequence identity between aa 21 and 133, before diverging into a 32 aa, highly O-glycosylated (CGb) or 8 aa (LHb) C-terminal tail (2). Mature human CGa shares 69%-73% aa identity with dog, rabbit, rat, mouse, cow, sheep, pig, cat and horse CGa. Each subunit form a cystine knot structure with three disulfide bridges (5). A “seat-belt” loop of CGb wraps around CGa, stabilizing subunit non-covalent association and conferring receptor selectivity (5). CGb is encoded by six clustered, nonallelic genes that encode identical, but differentially expressed, proteins (2, 7). HGC produced by cytotrophoblast cells in early pregnancy is hyperglycosylated and sialylated, increasing its acidity and half-life (3, 4, 8). Forms with lower glycosylation are produced by syncytiotrophoblasts in continuing pregnancy, and in small amounts by the pituitary where it is also sulfated (4, 8). Free, variably glycosylated CGb subunits are also reported (3, 4). The primary role of HCG is to act as an autocrine factor to establish pregnancy and control placental growth and function. HCG has also been shown to induce the angiogenic factor, EG-VEGF/PK1, and contribute to immune privilege by increasing circulating regulatory T cells and anti-inflammatory cytokines IL-10 and IL-27, via cAMP signaling (9, 10). In addition to pregnancy, large amounts of HCG are produced in gestational trophoblastic diseases such as choriocarcinoma and hydatiform mole (3, 4). HCG may also be produced by ovarian and testicular germ cell tumors and advanced cancers that have dedifferentiated (3, 4).

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Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475