

# Choriogonadotropin $\beta$ (B-4): sc-271062

## BACKGROUND

Choriogonadotropin is a hormone produced by the placenta in the first trimester of pregnancy and exists as a heterodimer formed from a unique  $\beta$  chain and an  $\alpha$  chain common to all gonadotropins. The unique  $\beta$  chain confers biological specificity to Choriogonadotropin, luteinizing hormone (LH) and follicle stimulating hormone (FSH). The secreted  $\alpha$  subunit maps to human chromosome 6 and the  $\beta$  subunit of Choriogonadotropin maps to human chromosome 19. Choriogonadotropin stimulates the ovaries to produce and maintain normal levels of the steroids essential for maintaining pregnancy, including estrogen and progesterone. Choriogonadotropin is a member of the cystine knot growth-factor superfamily, a group of proteins that contain a distinct arrangement of six cysteine residues and are expressed in placenta. The proper secretion and dimerization of Choriogonadotropin depends on the conformation of the cystine knot, although biological activity is independent of this conformation.

## CHROMOSOMAL LOCATION

Genetic locus: CGB (human) mapping to 19q13.33.

## SOURCE

Choriogonadotropin  $\beta$  (B-4) is a mouse monoclonal antibody raised against amino acids 129-165 mapping at the C-terminus of the Choriogonadotropin  $\beta$  precursor of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Choriogonadotropin  $\beta$  (B-4) is available conjugated to agarose (sc-271062 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271062 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271062 PE), fluorescein (sc-271062 FITC), Alexa Fluor<sup>®</sup> 488 (sc-271062 AF488), Alexa Fluor<sup>®</sup> 546 (sc-271062 AF546), Alexa Fluor<sup>®</sup> 594 (sc-271062 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-271062 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-271062 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-271062 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Choriogonadotropin  $\beta$  (B-4) is recommended for detection of precursor and mature Choriogonadotropin  $\beta$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

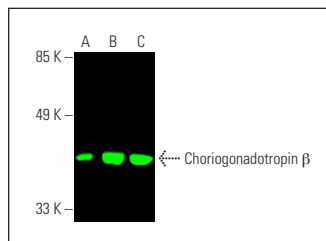
Suitable for use as control antibody for Choriogonadotropin  $\beta$  siRNA (h): sc-39540, Choriogonadotropin  $\beta$  shRNA Plasmid (h): sc-39540-SH and Choriogonadotropin  $\beta$  shRNA (h) Lentiviral Particles: sc-39540-V.

Molecular Weight of Choriogonadotropin  $\beta$ : 38 kDa.

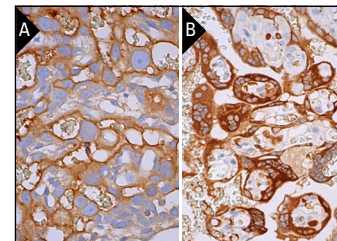
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Choriogonadotropin  $\beta$  (B-4): sc-271062. Near-infrared western blot analysis of Choriogonadotropin  $\beta$  expression in A-431 (A), U-698-M (B) and Ramos (C) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGx BP-CFL 680: sc-516180.



Choriogonadotropin  $\beta$  (B-4): sc-271062. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat placenta tissue showing extracellular staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells and extracellular staining (B).

## SELECT PRODUCT CITATIONS

- Lee, N., et al. 2015. Vaccinia-related kinase 1 promotes hepatocellular carcinoma by controlling the levels of cell cycle regulators associated with G<sub>1</sub>/S transition. *Oncotarget* 6: 30130-30148.
- Sengodan, S.K., et al. 2017. BRCA1 regulation on  $\beta$ -hCG: a mechanism for tumorigenicity in BRCA1 defective breast cancer. *Oncogenesis* 6: e376.
- Li, J., et al. 2018.  $\beta$  subunit of human chorionic gonadotropin promotes tumor invasion and predicts poor prognosis of early-stage colorectal cancer. *Cell. Physiol. Biochem.* 45: 237-249.
- Wang, L.J., et al. 2022. Functional antagonism between  $\Delta$ Np63 $\alpha$  and GCM1 regulates human trophoblast stemness and differentiation. *Nat. Commun.* 13: 1626.
- Uesato, Y., et al. 2022. Human chorionic gonadotropin- $\beta$  promotes pancreatic cancer progression via the epithelial mesenchymal transition signaling pathway. *J. Gastrointest. Oncol.* 13: 1384-1394.
- Zhou, H., et al. 2022. S100P promotes trophoblast syncytialization during early placenta development by regulating YAP1. *Front. Endocrinol.* 13: 860261.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.