Human Placental Lactogen/CSH1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 658234

Catalog Number: MAB57571

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Placental Lactogen/CSH1 in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 658234
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human Placental Lactogen/CSH1 Val27-Phe217 Accession # P01243
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

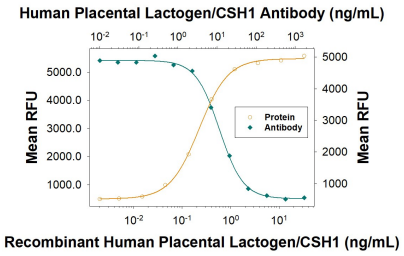
APPLICATIONS

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.*

Neutralization	Measured by its ability to neutralize Placental Lactogen/CSH1-induced proliferation in the Nb2-11 rat lymphoma cell line. The Neutralization Dose (ND_{50}) is typically 5-50 ng/mL in the presence of 1 ng/mL Recombinant HumanPlacental Lactogen/CSH1.

DATA

Neutralization



Cell Proliferation Induced by Placental Lactogen/CSH1 and Neutralization by Human Placental Lactogen/CSH1 Antibody. Recombinant Human Placental Lactogen/CSH1 (Catalog # 5757-PL) stimulates proliferation in the Nb2-11 rat lymphoma cell line in a dose-dependent manner (orange line) as measured by Resazurin (Catalog # AR002). Proliferation elicited by Recombinant Human Placental Lactogen/CSH1 (1 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human Placental Lactogen/CSH1 Monoclonal Antibody (Catalog # MAB57571). The ND_{50} is typically 5-50 ng/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
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.

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 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human Placental Lactogen/CSH1 Antibody

Monoclonal Mouse IgG_{2A} Clone # 658234

Catalog Number: MAB57571

BACKGROUND

Human Placental Lactogen (abbreviated PL or hPL), also called Chorionic Somatomammotropin Hormone 1 (abbreviated CSH1), is a member of the prolactin/growth hormone (PRL/GH) family (1). It is found in a cluster of growth hormones on chromosome 17 that appear to have a common ancestry. Identical 191 amino acid (aa) mature hPL proteins may be formed from one of two genes (2). PL contains a pair of C-terminal cysteines that may form either intra- or interchain disulfides. Human PL shares 98% aa identity with chimpanzee PL and >85% aa sequence identity with other human growth hormones, but only ~25% aa identity with mouse, ovine or bovine PL. PL is mainly expressed by cells in the syncytiotrophoblast layer of the placenta, which produce increasing amounts of PL as pregnancy proceeds. The major portion enters the maternal circulation, where it joins GH2 (placenta-specific GH) in replacing the functions of pituitary GH during pregnancy. A smaller amount of PL circulates in the fetus. Primate PL shows high affinity for the PRL receptor and low affinity for the GH receptor (1). Reduced stimulation of PL by angiotensin 2 correlates with intrauterine growth restriction (3). There is some evidence that mature angiogenic PL may be cleaved to form an anti-angiogenic N-terminal fragment (4). Although PL promotes pancreatic beta cell survival, it does not appear to be altered in gestational diabetes. It helps prepare mammaries for lactation, but probably does not influence lactation itself. PL may be a ligand of stabilin-1, which has been proposed to regulate PL internalization and degradation or re-expression (6).

References:

1. Handwerger, S. and M. Freemark (2000) J. Ped. Endocrinol. Metab. **13**:343.
2. Selby, M.J. *et al.* (1984) J. Biol. Chem. **259**:13131.
3. Szukiewicz, D. *et al.* (2008) Int. Immunopharmacol. **8**:177.
4. Struman, I. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:1246.
5. Fujinaka, Y. *et al.* (2007) J. Biol. Chem. **282**:30707.
6. Kzhyshkowska, J. *et al.* (2008) J. Immunol. **180**:3028.

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 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449