

DESCRIPTION

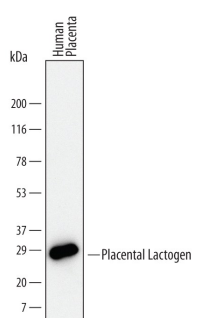
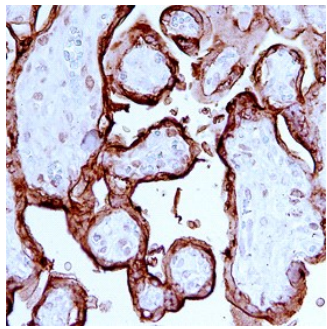
Species Reactivity	Human
Specificity	Detects human Placental Lactogen/CSH1 in direct ELISAs and Western blot. In direct ELISAs, no cross-reactivity with recombinant human Growth Hormone is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 658230
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Placental Lactogen/CSH1 Val27-Phe217 Accession # P01243
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	2 µg/mL	Human placenta tissue
Immunohistochemistry	8-25 µg/mL	See Below

DATA

<p>Immunohistochemistry</p>  <p>Detection of Human Placental Lactogen/CSH1 by Western Blot. Western blot shows lysates of human placenta tissue. PVDF Membrane was probed with 2 µg/mL of Human Placental Lactogen/CSH1 Monoclonal Antibody (Catalog # MAB5757) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Placental Lactogen/CSH1 at approximately 25 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>Placental Lactogen/CSH1 in Human Placenta. Placental Lactogen/CSH1 was detected in immersion fixed paraffin-embedded sections of human placenta using Human Placental Lactogen/CSH1 Monoclonal Antibody (Catalog # MAB5757) at 15 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-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in syncytiotrophoblast cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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

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 mammarys 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:

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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.