

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IGF-1 in direct ELISAs.
Source	Recombinant Monoclonal Goat IgG Clone # 40017A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human IGF-1 Gly49-Ala118 Accession # P05019
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.

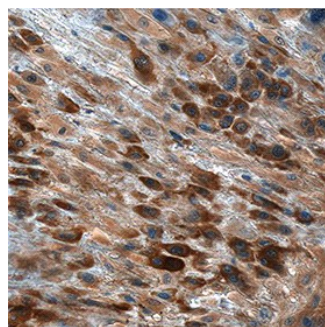
APPLICATIONS

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
Immunohistochemistry	3-25 µg/mL	See Below

DATA

Immunohistochemistry



IGF-I in Human Placenta. IGF-I was detected in immersion fixed paraffin-embedded sections of human placenta using Goat Anti-Human IGF-I Recombinant Monoclonal Antibody (Catalog # MAB2911) at 3 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in decidual cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

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. <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

Insulin-like growth factor I, also known as somatomedin C, is the dominant effector of growth hormone and is structurally homologous to proinsulin. Human IGF-I is synthesized as two precursor isoforms with N- and alternate C-terminal propeptides (1). These isoforms are differentially expressed by various tissues (1). The 7.6 kDa mature IGF-I is identical between isoforms and is generated by proteolytic removal of the N- and C-terminal regions. Mature human IGF-I shares 94% and 96% aa sequence identity with mouse and rat IGF-I, respectively (2), and exhibits cross-species activity. It shares 64% aa sequence identity with mature human IGF-II. Circulating IGF-I is produced by hepatocytes, while local IGF-I is produced by many other tissues in which it has paracrine effects (1). IGF-I induces the proliferation, migration, and differentiation of a wide variety of cell types during development and postnatally (3). IGF-I regulates glucose and fatty acid metabolism, steroid hormone activity, and cartilage and bone metabolism (4-7). It plays an important role in muscle regeneration and tumor progression (1, 8). IGF-I binds IGF-I R, IGF-II R, and the insulin receptor, although its effects are mediated primarily by IGF-I R (9). IGF-I association with IGF binding proteins increases its plasma half-life and modulates its interactions with receptors (10).

References:

1. Philippou, A. *et al.* (2007) *In Vivo* **21**:45.
2. Sandberg-Nordqvist, A.C. *et al.* (1992) *Brain Res. Mol. Brain Res.* **12**:275.
3. Guvakova, M.A. (2007) *Int. J. Biochem. Cell Biol.* **39**:890.
4. Clemmons, D.R. (2006) *Curr. Opin. Pharmacol.* **6**:620.
5. Bluher, S. *et al.* (2005) *Best Pract. Res. Clin. Endocrinol. Metab.* **19**:577.
6. Garcia-Segura, L.M. *et al.* (2006) *Neuroendocrinology* **84**:275.
7. Malemud, C.J. (2007) *Clin. Chim. Acta* **375**:10.
8. Samani, A.A. *et al.* (2007) *Endocrine Rev.* **28**:20.
9. LeRoith, D. and S. Yakar (2007) *Nat. Clin. Pract. Endocrinol. Metab.* **3**:302.
10. Denley, A. *et al.* (2005) *Cytokine Growth Factor Rev.* **16**:421.

PRODUCT SPECIFIC NOTICES

* Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to SDS for additional information and handling instructions.