# IGF-I/IGF-1 Protein, Rat

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| **Cat. No.:** | HY-P7203 |
| **Synonyms:** | rRtIGF-I; Somatomedin C; IGF1; Mechano growth factor |
| **Species:** | Rat |
| **Source:** | E. coli |
| **Accession:** | P08025 (G49-A118) |
| **Gene ID:** | 24482 |
| **Molecular Weight:** | Approximately 7.8 kDa |

## PROPERTIES

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| **AA Sequence** | M G P E T L C G A E L V D A L Q F V C G P R G F Y F N K P T G Y G S S I R R A P Q T G I V D E C C F R S C D L R R L E M Y C A P L K P T K S A |
| **Biological Activity** | The $ED_{50}$ is <10 ng/mL as measured by FDCP-1 cells, corresponding to a specific activity of >1.0 × $10^5$ units/mg. |
| **Appearance** | Lyophilized powder |
| **Formulation** | Lyophilized after extensive dialysis against PBS. |
| **Endotoxin Level** | <0.2 EU/μg, determined by LAL method. |
| **Reconsititution** | It is not recommended to reconstitute to a concentration less than 100 μg/mL in dd$H_2O$. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| **Storage & Stability** | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| **Shipping** | Room temperature in continental US; may vary elsewhere. |

## DESCRIPTION

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| **Background** | IGF-I (Insulin-like Growth Factor-I) has somatomedin activity. IGF-I stimulates the growth of hypophysectiomized rats in a dose-dependent manner[1]. Circulating IGF-I plays a prominent role in normal growth and development by mediating the indirect effects of growth hormone, with which it has a complex relationship. Delivery of IGF-I to the CNS may be beneficial in the treatment of Alzheimer's disease or stroke because of IGF-I's ability to potently promote neuronal survival, rescue hippocampal neurons from β-amyloid induced neurotoxicity, reduce tau phosphorylation, protect cortical neurons against nitric oxide-mediated neurotoxicity, rescue neurons from glucose deprivation and stimulate neurogenesis and synaptogenesis[2]. |

## REFERENCES

[1]. Schoenle E, et al. Insulin-like growth factor I stimulates growth in hypophysectomized rats. Nature. 1982 Mar 18;296(5854):252-3.

[2]. Thorne RG, et al. Delivery of insulin-like growth factor-I to the rat brain and spinal cord along olfactory and trigeminal pathways following intranasal administration. Neuroscience. 2004;127(2):481-96.



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