Active Insulin Like Growth Factor 1 (IGF1)

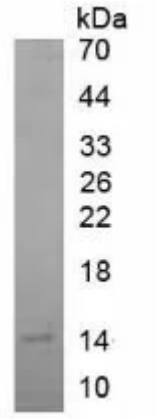
Catalog#:PHH12079

概述（Summary）

别称（Alternative Names）	IGFI; IGF1A; IBP1; MGF; Somatomedin C; Mechano Growth Gactor
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Gly49-Ala118】
Accession #	P05019
表达宿主（Host）	293F
种属（Species）	Homo sapiens (Human)
预测分子量（Predicted MW）	9.3 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity. May be a physiological regulator of [1-14C]-2-deoxy-D-glucose (2DG) transport and glycogen synthesis in osteoblasts. Stimulates glucose transport in bone-derived osteoblastic (PyMS) cells and is effective at much lower concentrations than insulin, not only regarding glycogen and DNA synthesis but also with regard to enhancing glucose uptake. May play a role in synapse maturation. Ca(2+)-dependent exocytosis of IGF1 is required for sensory perception of smell in the olfactory bulb. Acts as a ligand for IGF1R. Binds to the alpha subunit of IGF1R,

leading to the activation of the intrinsic tyrosine kinase activity which autophosphorylates tyrosine residues in the beta subunit thus initiatiating a cascade of down-stream signaling events leading to activation of the PI3K-AKT/PKB and the Ras-MAPK pathways. Binds to integrins ITGAV:ITGB3 and ITGA6:ITGB4. Its binding to integrins and subsequent ternary complex formation with integrins and IGFR1 are essential for IGF1 signaling. Induces the phosphorylation and activation of IGFR1, MAPK3/ERK1, MAPK1/ERK2 and AKT1.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

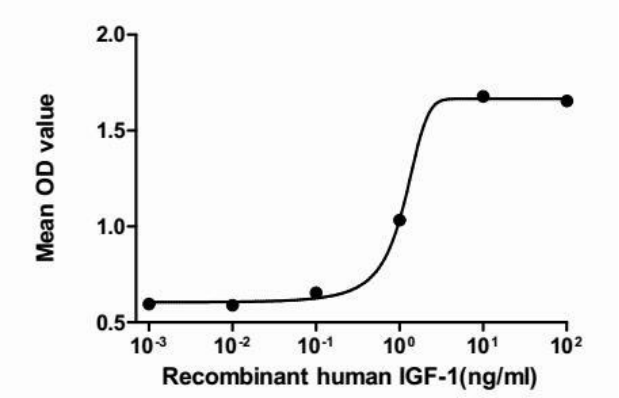
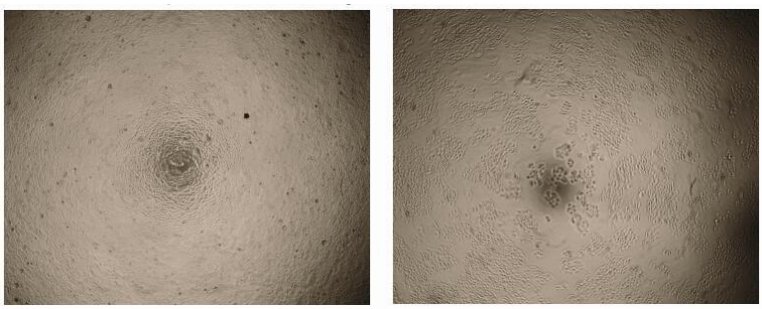


Figure 2. The dose-effect curve of IGF1 on MCF-7 cells.

Insulin-like growth factor I (IGF1), is a hormone similar in molecular structure to insulin but have a much higher growth-promoting activity, it belongs to a family of proteins involved in mediating growth and development. It is reported that IGF1 induces the proliferation, migration, differentiation of a large types of cells including the MCF-7 breast cancer cell line. To test the effect of growth factors on proliferation, MCF-7 cells were seeded into triplicate wells of 96-well plates at a density of 2,000 cells/well and allowed to attach overnight, then the medium was replaced with serum-free standard DMEM prior to the addition of various concentrations of IGF-1. After incubated for 72h, cells were observed by inverted microscope and cell

proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 μL of CCK-8 solution was added to each well of the plate, then measure the absorbance at 450nm using a microplate reader after incubating the plate for 1-4 hours at 37°C. Cell proliferation of MCF-7 cells after incubation with IGF1 for 72h observed by inverted microscope was shown in Figure 1. The dose-effect curve of IGF1 was shown in Figure2. It was obvious that IGF1 significantly promoted cell proliferation of MCF-7 cells. The ED50 for this effect is typically 8.66~17.19 ng/mL.



A B

Figure 1. Cell proliferation of MCF-7 cells after stimulated with IGF1.

(A) MCF-7 cells cultured in serum-free DMEM, stimulated with 10ng/mL IGF1 for 72h;

(B) Unstimulated MCF-7 cells cultured in serum-free DMEM for 72h.

注意事项（Note）

For Research Use Only , Not for Diagnostic Use.