Recombinant Human Insulin-like Growth Factor-1, OsrIGF-1 Lyophilized Powder

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Source: Rice Grain (*Oryza Sativa*)

Catalog No. : HY202M1

Introduction

IGF-1, which has a molecular weight of 7.6kD, is a hormone similar in molecular structure to insulin. It primarily functions through binding to its specific receptor, the insulin-like growth factor 1 receptor (IGF1R). Binding to the IGF1R initiates intracellular signaling. IGF-1 is one of the most potent natural activators of the AKT signaling pathway, which stimulates cell growth and proliferation, and inhibits cell apoptosis. Thus, IGF-1 is widely deemed as a powerful substitute of insulin.

OsrIGF-1 is expressed in a form of fusion protein with HSA. OsrIGF-1 presents a molecular weight about 74.5kD, and has a much higher stability compared to unmodifed IGF-1.

Specification

Molecular Weight: 74.5kD

Physical Appearance: White lyophilized powder

Formulation: OsrIGF-1 is purified by chromatography from transgenic rice endosperm, then lyophilized with saline.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Biological activity: The bioactivity determined by a cell proliferation assay using FDC-P1 cell, corresponding to a specific activity of ≥ 1×10^6 Units/mg.

Endotoxin: Less than 1EU/μg

Preparation and Storage

Reconstitution: It is recommended to reconstitute OsrIGF-1 at 100-200ug/ml in sterile water. Further dilutions can be made in other aqueous buffer.

Stability and Storage: Lyophilized OsrIGF-1 can remain stable at -20°C for at least 12 months. Upon reconstitution OsrIGF1 should be stored at 4°C for 1 month and for future use at -20°C.

Please avoid repeated freeze-thaw cycles.

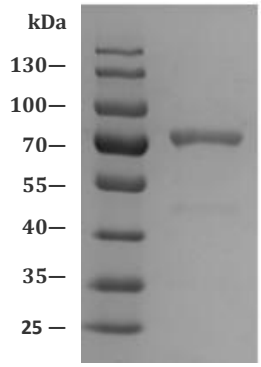
Features and Benefits

Scalable: Rice endosperm platform makes the manufacture capability at multi-gram scales to meet your bioprocessing needs.

Stability and Activity in Culture: Extended half-life in culture and enhanced activity compared to IGF-1 provides cost and time saving benefits.

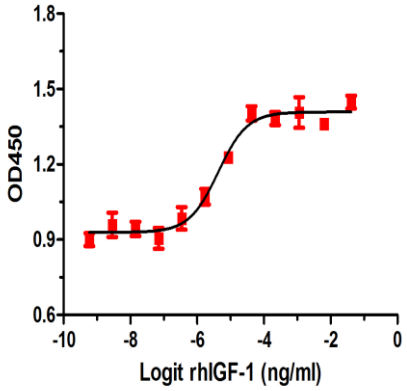
Data

1. SDS-PAGE



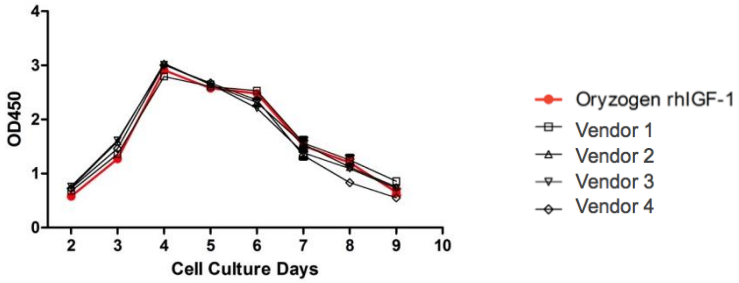
***Recombinant Human Insulin-like Growth Factor* (*OsrIGF-1*)** was resolved with SDS-PAGE under reducing (R) conditions and visualized by CBB (Coomassie Brilliant Blue) staining, showing a single band at 74.5 kDa.

2. Bioactivity



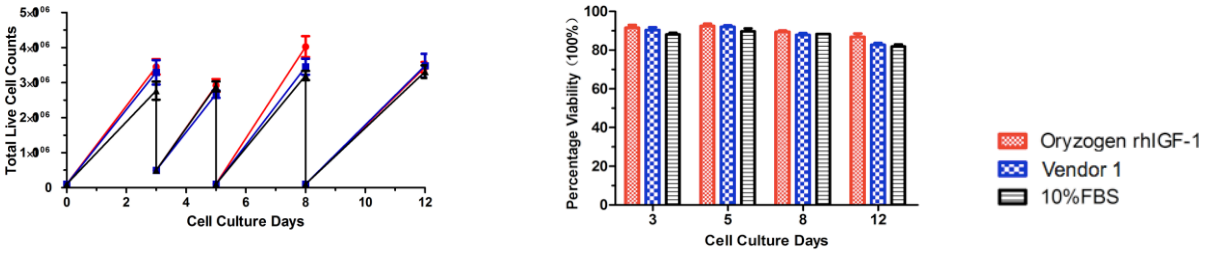
***Recombinant Human Insulin-like Growth Factor* (*OsrIGF-1*)** stimulates cell proliferation using the FDC-P1 cell line. The ED50 for this effect is typically 1-10ng/ml

3. Comparison of ability in stimulating cell proliferation with other vendors.



Comparison of stimulating ability of ***Recombinant Human Insulin-like Growth Factor* (*OsrIGF-1*)** with other vendors in 9days.

4. Comparison of ability in stimulating cell proliferation over generations with other vendor.



Comparison of stimulating ability of ***Recombinant Human Insulin-like Growth Factor* (*OsrIGF-1*)** with other vendors in 4 generations.

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