



Clonetics™ Fresh Human Pancreatic Islets

Technical Sheet

Introduction

Clonetics™ Fresh Human Pancreatic Islets (or Islets of Langerhans) contains Human Pancreatic Islets isolated from fresh donor tissue and media for maintenance of cultures prior to and during experimental procedures. Human Pancreatic Islets may be used for studies of long-term islet grafting survival, prevention of islet rejection, prevention of adverse effects from immunosuppressive drugs and basic research. Fresh Human Pancreatic Islets are shipped in primary passage.

Characterization of Cells

Routine characterization of pancreatic islets includes visual assessment of purity ($\geq 70\%$ purity of DTZ positive islet cells).

Performance

Fresh Human Pancreatic Islets are non-proliferating, suspension cell aggregates and can remain optimally viable in culture at 22°C for approximately seven days from the date of isolation, but decline in viable number over time. Cultures longer than seven days (possibly up to 4 weeks) may be possible for specific applications with frequent media changes and special culture conditions. See references for more information. For optimal viability, use cells immediately upon receipt.

Quality Control

All lots are performance assayed and test negative for HIV-1, Hepatitis-B, Hepatitis-C, bacteria, yeast and fungi. Islet identity, islet purity, islet number, islet viability, and sterility are measured immediately after isolation or prior to shipment. Certificates of Analysis (COA) for each lot are shipped with each order.

Culturing References

1. Daoud J, Rosenberg L, Tabrizian M. Pancreatic islet culture and preservation strategies: advances, challenges, and future outlook. *Cell Transplant*. 2010;19(12):1523-35.
2. Kerr-Conte J, Vandewalle B, Moerman E, Lukowiak B, Gmyr V, Arnalsteen L, Caiazzo R, Sterkers A, Hubert T, Vantyghem MC, Pattou F. Upgrading pretransplant human islet culture technology requires human serum combined with media renewal. *Transplantation*. 2010 May 15;89(9):1154-60.
3. Murdoch TB, McGhee-Wilson D, Shapiro AM, Lakey JR. Methods of human islet culture for transplantation. *II Transplant*. 2004;13(6):605-17.

Ordering Information

Fresh Human Pancreatic Islets (Single Donor):

Cat. No.	Product	Description
00201981	Fresh Human Pancreatic Islets, 100 K	≥100,000 IEQ + 500 ml bottle of medium
00201983	Fresh Human Pancreatic Islets, 20 K	≥20,000 IEQ + 500 ml bottle of medium
00201984	Fresh Human Pancreatic Islets, 10 K	≥10,000 IEQ + 500 ml bottle of medium
00201985	Fresh Human Pancreatic Islets, 5 K	≥5,000 IEQ + 500 ml bottle of medium
00202998	Fresh Human Pancreatic Islets, 2 K	≥2,000 IEQ + 500 ml bottle of medium

Please note that one islet equivalent (IEQ) is an islet of diameter 150 µm, typically containing 1,500-2,000 cells, including 40-60% beta cells. Islets of different sizes are volumetrically adjusted to IEQs during enumeration.

Additional Available Testing (Additional Charge):

Test	Typical Results (F.I.O.)	Estimated Testing Time
DNA Quantitation	12893 +/- 6937 µg DNA 36.3 +/- 28.9 IE per µg DNA	1 day
Oxygen Consumption Rate	123.4 +/- 23.1 pmol/min/µg DNA	1 day
Glucose Stimulated Insulin Response	4.092 +/- 2.83	4 days
Beta Cell Composition	48.4% +/- 9.38%	14 days

Please note that additional testing is initiated on the day of cell shipment. If you require any of the above additional testing, please specify at the time of order.

Related Products

Cryopreserved Diseased Human Cells from Diabetic Type I & Type II Donors (Single Donor):

Cat. No.	Product	Description
PT-5007	ADSC, adipose-derived stem cells, cryopreserved (Diabetes Type I)	≥ 1,000,000 cells
PT-5008	ADSC, adipose-derived stem cells, cryopreserved (Diabetes Type II)	≥ 1,000,000 cells
CC-2919	D-HAEC, human aortic endothelial cells (Diabetes Type I)	≥ 500,000 cells
CC-2920	D-HAEC, human aortic endothelial cells (Diabetes Type II)	≥ 500,000 cells
CC-2921	D-HCAEC, human coronary artery endothelial cells (Diabetes Type I)	≥ 500,000 cells
CC-2922	D-HCAEC, human coronary artery endothelial cells (Diabetes Type II)	≥ 500,000 cells
CC-2923	D-HPAEC, human pulmonary artery endothelial cells (Diabetes Type I)	≥ 500,000 cells
CC-2924	D-HPAEC, human pulmonary artery endothelial cells (Diabetes Type II)	≥ 500,000 cells
CC-2927	D-HMCEC-C, human cardiac microvascular endothelial cells (Diabetes Type I)	≥ 500,000 cells
CC-2928	D-HMCEC-C, human cardiac microvascular endothelial cells (Diabetes Type II)	≥ 500,000 cells
CC-2929	D-HMCEC-d adult, adult human dermal microvascular endothelial cells (Diabetes Type I)	≥ 500,000 cells
CC-2930	D-HMCEC-d adult, adult human dermal microvascular endothelial cells (Diabetes Type II)	≥ 500,000 cells

Product Warranty

Fresh Human Pancreatic Islets are produced by the University of Minnesota and distributed by Lonza.

Cultures have a finite lifespan *in vitro*. Lonza warrants the Fresh Human Pancreatic Islets for seven days from date of shipment only if the recommended medium is used.

When placing an order or for Scientific Support, please refer to the product numbers and descriptions listed above. For a complete listing of all Clonetics™ Products, refer to the Lonza website or the current Lonza catalog. To obtain a catalog, additional information or want to speak with Scientific Support, you may contact Lonza by web, e-mail, telephone, fax or mail (See page 1 for details).

THESE PRODUCTS ARE FOR RESEARCH USE ONLY. Not approved for human or veterinary use, for application to humans or animals, or for use in clinical or *in vitro* procedures.

WARNING: CLONETICS™ AND POIETICS™ PRODUCTS CONTAIN HUMAN SOURCE MATERIAL, TREAT AS POTENTIALLY INFECTIOUS. Each donor is tested and found non-reactive by an FDA-approved method for the presence of HIV-I, hepatitis B virus and hepatitis C virus. Where donor testing is not possible, cell products are tested for the presence of viral nucleic acid from HIV, hepatitis B virus, and hepatitis C virus. Testing cannot offer complete assurance that HIV-1, hepatitis B virus, and hepatitis C virus are absent. All human-sourced products should be handled at the biological safety level 2 to minimize exposure of potentially infectious products, as recommended in the CDC-NIH manual, Biosafety in Microbiological and Biomedical Laboratories, 5th ed. If you require further information, please contact your site safety officer or Scientific Support.

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