CHEMICON® INTERNATIONAL
a Serologicals® Company

Pancreatic Cell Development Pathway Kit

CATALOG NUMBER: SCR046

LOT NUMBER:

QUANTITY: One kit containing the following components:

50 μg of FoxA2 rabbit polyclonal (Part No: 2006079)
50 μg of Hes-1 rabbit polyclonal (Part No: 2006080)
50 μL of Pax 6 rabbit polyclonal (Part No: 2006231)
50 μL of IDX-1 (PDX-1), C-terminal rabbit polyclonal (Part No: AB3243)
50 μL of Glucagon rabbit polyclonal (Part No: 2005814)
50 μL of Pancreatic Polypeptide rabbit polyclonal (Part No: 2005818)

DESCRIPTION: Diabetes results from the loss or dysfunction of insulin producing beta-cells in the pancreas. Cell replacement therapy through islet transplantation is considered a potential long term approach to the control of blood glucose levels. However obtaining sufficient quantities of insulin producing tissues for islet transplantation remains a major impediment. Stem cells (either from embryonic stem cells or from pancreatic progenitors) could potentially provide an abundant alternative source of islet cells for transplantation therapies.

CHEMICON®'s Pancreatic Cell Development Pathway Kit (SCR046) provides a collection of antibodies that are unique to key transition points along the developmental pathway of pancreatic cells. Included in the kit are antibodies to critical transcription factors expressed during the program of development along with two antibodies to hormones secreted by mature islets cells.

First Transition: Early in development, (embryonic day 8.5 (e8.5) to e9.5 in the mouse), the pancreas originates from the endoderm as two buds that develop on the dorsal and ventral side of the foregut. From e10.5 to e12.5, the dorsal and ventral pancreatic buds undergo further transformation into two primitive pancreases with branching ducts and undifferentiated epithelium. Single endocrine cells are evident throughout the undifferentiated epithelium.
FoxA2
PDX-1
Hes-1

Second Transition: Differentiation of the buds into endocrine and exocrine cell lineages (e14). The dorsal and ventral primitive pancreases rotate and fuse to form the more developed pancreas (e13 to e15). Endocrine cells proliferate and become clustered as islets of Langerhans (e16 to e19).
PAX 6

Third Transition: Maturation of endocrine cells.
Glucagon
Pancreatic Polypeptide.

STORAGE/HANDLING: All kit components should be stored at -20°C.

REFERENCES:
Habener, J. F., Kemp, D. M., and Thomas, M. K. (2005) Minireview: Transcriptional regulation in pancreatic development. *Endocrinology* **146 (3)**: 1025-1034.

For research use only; not for use as a diagnostic.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μL or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

USA & Canada • Phone: +1(800) 437-7500 • Fax: +1 (951) 676-9209 • Europe +44 (0) 23 8026 2233
Australia +61 3 9839 2000 • Germany +49-6192-207300 • ISO Registered worldwide
www.chemicon.com • custserv@chemicon.com • techserv@chemicon.com