83103 Avenue 48, Ste.1B #204
Coachella, CA 92236 USA
Phone : +1.6268339877
Email : info@cali-bio.com

California Bioscience

Product Datasheet

Product Name	Pancreatic Duodenal Homeobox-1 Human Recombinant
Cata No	CB501036
Source	*Escherichia Coli.*
Synonyms	Pancreas/duodenum homeobox protein 1, PDX-1, Insulin promoter factor 1, IPF-1, Islet/duodenum homeobox-1, IDX-1, Somatostatin-transactivating factor 1, STF-1, Insulin upstream factor 1, IUF-1, Glucose-sensitive factor, GSF, PDX1, IPF1, IUF1, MODY4.

Description

PDX-1 is a transcription factor which is expressed in beta and delta cells of the islets of Langerhans and in scattered endocrine cells of the duodenum. Pancreatic Duodenal Homeobox-1 activates insulin, somatostatin, glucokinase, islet amyloid polypeptide and glucose transporter type 2 gene transcription. PDX-1 is particularly involved in glucose-dependent regulation of insulin gene transcription. Furthermore, PDX-1 plays a key part in the development of the pancreas and islet cell ontogeny. As a result homozygous interference with the gene in humans and mice results in pancreatic agenesis. The result of heterozygous mutations in PDX-1 gene is impaired glucose tolerance and symptoms of diabetes as seen in MODY4 and late-onset Type II (non-insulin-dependent) diabetes mellitus. PDX-1 binds preferentially the DNA motif 5'-[ct]taat[tg]-3'. During development, specifies the early pancreatic epithelium, permitting its proliferation, branching and subsequent differentiation. At adult stage, IPF1 is required for maintaining the hormone-producing phenotype of the beta-cell. In adults PDX-1 expression is increased in the pancreas duct cells that have been induced to proliferate and differentiate to form new islets. Deficiencies in pancreatic PDX-1 could therefore contribute to Type II diabetes by affecting compensatory mechanisms that boost the rate of beta-cell neogenesis to meet the increased insulin secretory demand.
The Human Insulin promoter factor-1 Recombinant Protein, produced in E. coli, is a 30.64 kDa protein containing 283 amino acids.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Biological Activity

The activity of human PDX-1 is determined by the ability to stimulate NeuroD1 gene expression in WB cells and binding to insulin promoter be EMSA assay.

Purity

Greater than 97.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

Lyophilized Powder of liquid in PBS, pH 7.4.

Reconstitution

It is recommended to reconstitute the lyophilized PDX1 in sterile PBS, 10% glycerol to prepare a stock of 100 µg/ml.

Stability

Recombinant Human PDX1 although stable at 25℃ 1 week, should be stored desiccated below -18℃.
Please prevent freeze-thaw cycles.

*** For Non-Clinical Research Use Only ***

83103 Avenue 48, Ste.1B #204
Coachella, CA 92236 USA
Phone : +1.6268339877
Email : info@cali-bio.com

California Bioscience

Product Datasheet

*** For Non-Clinical Research Use Only ***