Resource Summary Report

Generated by dkNET on Aug 24, 2026

INS-1E

RRID:CVCL_0351
Type: Cell Line

Proper Citation

RRID:CVCL_0351

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_0351

Proper Citation: RRID:CVCL_0351

Description: Cell line INS-1E is a Cancer cell line with a species of origin Rattus norvegicus (Rat)

Sex: Male

Disease: Rat insulinoma

Defining Citation: PMID:14592952, PMID:22569486, PMID:30310992

Comments: Caution: This cell line is owned by the University of Geneva, Switzerland, who is the sole authorized distributor for both commercial and non-commercial research use., Characteristics: Used in numerous studies investigating the mechanisms of glucose stimulated insulin secretion. Is glucose responsive in a physiological range with substantial insulin content levels and a robust metabolism-secretion coupling (PubMed=30310992).

Category: Cancer cell line

Organism: Rattus norvegicus (Rat)

Name: INS-1E

Synonyms: INS1-E, INS1E

Cross References: BCGO:BCGO_0000120, BTO:BTO_0003317, MCCL:MCC:0000245, AddexBio:C0018009/4675, ChEMBL-Cells:CHEMBL4651375, Lonza:1137, PRIDE:PXD006544, PRIDE:PXD008988, PRIDE:PXD011329, PubChem_Cell_line:CVCL_0351, Wikidata:Q54897749

ID: CVCL_0351

Hierarchy: cvcl_0352

Record Creation Time: 20220427T220636+0000

Record Last Update: 20260815T234323+0000

Ratings and Alerts

No rating or validation information has been found for INS-1E.

Warning: Discontinued: AddexBio; C0018009
Caution: This cell line is owned by the University of Geneva, Switzerland, who is the sole authorized distributor for both commercial and non-commercial research use.,
Characteristics: Used in numerous studies investigating the mechanisms of glucose stimulated insulin secretion. Is glucose responsive in a physiological range with substantial insulin content levels and a robust metabolism-secretion coupling (PubMed=30310992).

Data and Source Information

Source: Cellosaurus

Usage and Citation Metrics

We found 313 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET .

Kampamba M, et al. (2026) In Vitro Antidiabetic Activity and Mechanism of Action of Methanolic Extract of Opuntia stricta Cladodes. BioMed research international, 2026(1), e9325356.

Marrano N, et al. (2026) The myokine irisin ameliorates the secretory dysfunction of pancreatic ? cells in experimental and human type 2 diabetes. Science advances, 12(23), eaee4804.

Walth-Hummel AA, et al. (2026) TBL1X/TBL1XR1 govern ?-cell identity through a PAX6-containing gene regulatory network. Nature communications, 17(1).

Zhou Y, et al. (2025) In situ metabolomics reveals intra-islet metabolite changes upon in vivo stimulation of insulin secretion. The Journal of biological chemistry, 110661.

Dos Reis Araujo T, et al. (2025) Disruption of mitochondria-associated membranes contributes to the dysregulation of insulin secretion in undernutrition, obesity, and double burden of malnutrition. Metabolism: clinical and experimental, 173, 156393.

de Almeida DC, et al. (2025) Expression, localization and regulation of NADPH oxidases in pancreatic beta cells. Redox report : communications in free radical research, 30(1), 2568300.

Li L, et al. (2025) Isorhamnetin Exhibits Hypoglycemic Activity and Targets PI3K/AKT and COX-2 Pathways in Type 1 Diabetes. Nutrients, 17(20).

Deshmukh A, et al. (2025) Secretory stimuli distinctly regulate insulin secretory granule maturation through structural remodeling. Structure (London, England : 1993).

Ghignoli S, et al. (2025) Spatiotemporal Analysis of Glucagon Secretory Granule Dynamics. Traffic (Copenhagen, Denmark), 26(7-9), e70019.

Barekatain M, et al. (2024) Insulator-based dielectrophoresis-assisted separation of insulin secretory vesicles. eLife, 13.

Jiménez-Sánchez C, et al. (2024) Lysophosphatidylinositols Are Upregulated After Human ?-Cell Loss and Potentiate Insulin Release. Diabetes, 73(1), 93.

Jab?rek M, et al. (2024) Mitochondria to plasma membrane redox signaling is essential for fatty acid ?-oxidation-driven insulin secretion. Redox biology, 75, 103283.

Zhou S, et al. (2023) Spore Oil-Functionalized Selenium Nanoparticles Protect Pancreatic Beta Cells from Palmitic Acid-Induced Apoptosis via Inhibition of Oxidative Stress-Mediated Apoptotic Pathways. Antioxidants (Basel, Switzerland), 12(4).

Dobosz AM, et al. (2023) Inhibition of stearoyl-CoA desaturase 1 in the mouse impairs pancreatic islet morphogenesis and promotes loss of ?-cell identity and ?-cell expansion in the mature pancreas. Molecular metabolism, 67, 101659.

Oliveira VR, et al. (2023) Pre-treatment with IL-6 potentiates ?-cell death induced by pro-inflammatory cytokines. BMC molecular and cell biology, 24(1), 11.

Delgadillo-Puga C, et al. (2023) Vachellia farnesiana Pods or a Polyphenolic Extract Derived from Them Exert Immunomodulatory, Metabolic, Renoprotective, and Prebiotic Effects in Mice Fed a High-Fat Diet. International journal of molecular sciences, 24(9).

Pucelik B, et al. (2023) DYRK1A inhibitors leucettines and TGF-? inhibitor additively stimulate insulin production in beta cells, organoids, and isolated mouse islets. PloS one, 18(5), e0285208.

Wieder N, et al. (2023) FALCON systematically interrogates free fatty acid biology and identifies a novel mediator of lipotoxicity. Cell metabolism, 35(5), 887.

Hoefner C, et al. (2023) FK506-Binding Protein 2 Participates in Proinsulin Folding. Biomolecules, 13(1).

Sithara S, et al. (2023) Identification of reversible and druggable pathways to improve beta-cell function and survival in Type 2 diabetes. Islets, 15(1), 2165368.