

Resource Summary Report

Generated by [NIF](#) on Aug 25, 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

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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 [NIF](#) .

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.

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

Marrano N, et al. (2026) The myokine irisin ameliorates the secretory dysfunction of pancreatic β cells in experimental and human type 2 diabetes. *Science advances*, 12(23), eade4804.

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.

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.

- 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.
- Li L, et al. (2025) Isorhamnetin Exhibits Hypoglycemic Activity and Targets PI3K/AKT and COX-2 Pathways in Type 1 Diabetes. *Nutrients*, 17(20).
- Barekatin 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 β -Cell Loss and Potentiate Insulin Release. *Diabetes*, 73(1), 93.
- Jabrek M, et al. (2024) Mitochondria to plasma membrane redox signaling is essential for fatty acid β -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).
- Oliveira VR, et al. (2023) Pre-treatment with IL-6 potentiates β -cell death induced by pro-inflammatory cytokines. *BMC molecular and cell biology*, 24(1), 11.
- Dobosz AM, et al. (2023) Inhibition of stearyl-CoA desaturase 1 in the mouse impairs pancreatic islet morphogenesis and promotes loss of β -cell identity and β -cell expansion in the mature pancreas. *Molecular metabolism*, 67, 101659.
- 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).
- Hoefner C, et al. (2023) FK506-Binding Protein 2 Participates in Proinsulin Folding. *Biomolecules*, 13(1).
- Wieder N, et al. (2023) FALCON systematically interrogates free fatty acid biology and identifies a novel mediator of lipotoxicity. *Cell metabolism*, 35(5), 887.
- Pucelik B, et al. (2023) DYRK1A inhibitors leucettines and TGF- β inhibitor additively stimulate insulin production in beta cells, organoids, and isolated mouse islets. *PloS one*, 18(5), e0285208.
- Perez-Serna AA, et al. (2023) BCL-XL Overexpression Protects Pancreatic β -Cells against Cytokine- and Palmitate-Induced Apoptosis. *International journal of molecular sciences*, 24(6).