Glucose Uptake Assay Kit

Catalog #   KA4086   Size   1 Kit

Applications

Measurement of 2DG uptake in differentiated 3T3-L1 adipocytes and 3T3-L1 fibroblasts.

Measurement of 2DG uptake in differentiated 3T3-L1 adipocytes and 3T3-L1 fibroblasts.

Assays were performed with Glucose Uptake Assay Kit (Cat # KA4086) in a black wall/clear bottom cell culture Poly-D lysine plate using a SpectraMax (Molecular Devices) microplate reader. (A: Negative Control, no insulin no 2-DG treatment. B: 2DG uptake in the absence of insulin. C: 2DG uptake in the presence of 1 mM insulin. D: 2DG uptake in the presence of 1 mM insulin and 200 mM phloretin. E: 2DG uptake in the presence of insulin 1 mM and 5 mM D-Glucose.) (Please refer to the protocol for detailed operations.)

Specification

Product Description	Glucose Uptake Assay Kit is used for the measurement of glucose uptake.
Suitable Sample	Live Cells
Absorbance (nm)	OD ratio at 570/610 nm
Detection Method	Colorimetric
Instrument Platform	Microplate Reader
Regulation Status	For research use only (RUO)
Storage Instruction	Store the kit in desiccated environment at -20°C and avoid from light.

Note	Measurement of 2DG uptake in differentiated 3T3-L1 adipocytes and 3T3-L1 fibroblasts. Measurement of 2DG uptake in differentiated 3T3-L1 adipocytes and 3T3-L1 fibroblasts. Assays were performed with Glucose Uptake Assay Kit (Cat # KA4086) in a black wall/clear bottom cell culture Poly-D lysine plate using a SpectraMax (Molecular Devices) microplate reader. (A: Negative Control, no insulin no 2-DG treatment. B: 2DG uptake in the absence of insulin. C: 2DG uptake in the presence of 1 mM insulin. D: 2DG uptake in the presence of 1 mM insulin and 200 mM phloretin. E: 2DG uptake in the presence of insulin 1 mM and 5 mM D-Glucose.) (Please refer to the protocol for detailed operations.)

Applications

- Quantification

Publication Reference

- MYC Promotes LDHA Expression through MicroRNA-122-5p to Potentiate Glycolysis in Hepatocellular Carcinoma.

  Xiaofei Wang, Penghua Zhang, Ke Deng.

  Analytical Cellular Pathology (Amsterdam) 2022 Aug; 2022:1435173.

  Application: Quant, Human, Huh7, MHCC97H cells

- Myeloid ecotropic viral integration site-1 inhibition promotes apoptosis, suppresses proliferation of acute myeloid leukemia cells, accentuates the effects of anticancer drugs.

  Yinglan Jin, Jinghua Wang, Mingming Zhao, Jingyi Lin, Luojia Hong.

  Bioengineered 2022 Mar; 13(3):5700.

  Application: Func, Human, Kasumi-1, Kasumi-6 cells

- CRNDE silencing promotes apoptosis and enhances cisplatin sensitivity of colorectal carcinoma cells by inhibiting the Akt/mTORC1-mediated Warburg effect.

  Wenyu Yang, Yanchun Wang, Chunhui Tao, Yunhai Li, Shan Cao, Xiqian Yang.

  Oncology Letters 2022 Feb; 23(2):70.

  Application: Quant, Human, HCT116 cells

- Hyperoxia induces alveolar epithelial cell apoptosis by regulating mitochondrial function through small mothers against decapentaplegic 3 (SMAD3) and Extracellular signal-regulated kinase 1/2 (ERK1/2).

  Jun Jiang, Juan Wang, Cen Li, Lianqin Mo, Dong Huang.

  Bioengineered 2022 Jan; 13(1):242.

  Application: Glucose Uptake Assay, Rat, RLE-6TN cell

- **LHPP impedes energy metabolism by inducing ubiquitin-mediated degradation of PKM2 in glioblastoma.**

  Wen-Jin Chen, Li-Hua Chen, Ji Wang, Zhao-Tao Wang, Cui-Ying Wu, Kai Sun, Bo-Yun Ding, Ning Liu, Ru-Xiang Xu.

  American Journal of Cancer Research 2021 Apr; 11(4):1369.

  Application: Func, Human, U87MG, U118MG cells

- **Everolimus regulates the activity of gemcitabine-resistant pancreatic cancer cells by targeting the Warburg effect via PI3K/AKT/mTOR signaling.**

  Jing Cui, Yao Guo, Heshui Wu, Jiongxin Xiong, Tao Peng.

  Molecular Immunology 2021 Apr; 27(1):38.

  Application: Func, Human, BxPC-3 cells

- **Circ-KIAA0907 inhibits the progression of oral squamous cell carcinoma by regulating the miR-96-5p/UNC13C axis.**

  Wenjie Dong, Lei Zhao, Shiyang Zhang, Shijie Zhang, Hongyun Si.

  World Journal of Surgical Oncology 2021 Mar; 19(1):75.

  Application: Func, Human, HSC6, OECM1 cells

- **LncRNA DDX11-AS1 accelerates hepatocellular carcinoma progression via the miR-195-5p/MACC1 pathway.**

  Tao Wan, Jun Zheng, Rucheng Yao, Shuang Yang, Weihong Zheng, Pei Zhou.

  Annals of hepatology 2020 Sep; 20:100258.

  Application: Func, Human, Huh7, PLC/PRF/5 cells

- **Annexin A5 regulates hepatic macrophage polarization via directly targeting PKM2 and ameliorates NASH.**

  Fang Xu, Mengmeng Guo, Wei Huang, Lili Feng, Jiazhen Zhu, Kangkang Luo, Jian Gao, Bingfeng Zheng, Ling-Dong Kong, Tao Pang, Xudong Wu, Qiang Xu.

  Redox Biology 2020 Sep; 36:101634.

  Application: Func, Mouse, Mouse bone marrow-derived macrophages

- **Smart Biomimetic Nanocomposites Mediate Mitochondrial Outcome Through Aerobic Glycolysis Reprogramming: a Promising Treatment for Lymphoma.**

  Zhao Q, Li J, Wu B, Shang Y, Huang X, Dong H, Liu H, Chen W, Gui R, Nie XM.

  ACS Applied Materials & Interfaces 2020 May; 12(20):22687.

  Application: Func, Human, Raji cells

- **Melatonin Attenuates Calcium Deposition From Vascular Smooth Muscle Cells by Activating Mitochondrial Fusion and Mitophagy via an AMPK/OPA1 Signaling Pathway.**

  Wei Ren Chen, Yu Jie Zhou, Jia Qi Yang, Fang Liu, Xue Ping Wu, Yuan Sha.

  Oxidative Medicine and Cellular Longevity 2020 Apr; 2020:5298.

  Application: Quant, Rat, Rat vascular smooth muscle cells

- [CSN5 upregulates glycolysis to promote hepatocellular carcinoma metastasis via stabilizing the HK2 protein.](#)

  Huang M, Xiong H, Luo D, Xu B, Liu H.

  Experimental Cell Research 2020 Mar; 388(2):111876.

  Application: Quant, Human, HCCLM3 cells

- [Vitamins D and E Stimulate the PI3K-AKT Signalling Pathway in Insulin-Resistant SK-N-SH Neuronal Cells.](#)

  Zaulkffali AS, Md Razip NN, Syed Alwi SS, Abd Jalil A, Abd Mutalib MS, Gopalsamy B, Chang SK, Zainal Z, Ibrahim NN, Zakaria ZA, Khaza'ai H.

  Nutrients 2019 Oct; 11(10):E2525.

  Application: Func, Human, SK-N-SH cells

- [Oleanolic acid reduces aerobic glycolysis-associated proliferation by inhibiting yes-associated protein in gastric cancer cells.](#)

  Li Y, Xu Q, Yang W, Wu T, Lu X.

  Gene 2019 Sep; 712:143956.

  Application: Func, Human, MKN-45, SGC-7901 cells

- [Blockade of glycolysis-dependent contraction by oroxylin a via inhibition of lactate dehydrogenase-a in hepatic stellate cells.](#)

  Wang F, Jia Y, Li M, Wang L, Shao J, Guo Q, Tan S, Ding H, Chen A, Zhang F, Zheng S.

  Cell Communication and Signaling 2019 Feb; 17(1):11.

  Application: Func, Human, LX2 cells