www.sonidel.com

Cell Lines Electroporation

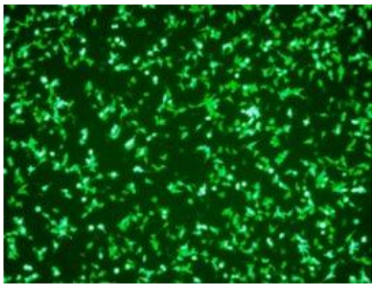
The NEPA21 works not only for plasmid DNA but also for siRNA, mRNA, shRNA, proteins and more. It is also the only device on the market to approach Cell Electroporation from the perspective of optimising delivered energy.

- The finer control over the delivered energy available with the NEPA21 offers specific and important advantages for cell electroporation. As the thrust of NEPA21 protocols is to minimise delivered energy, this means that the targets are electroporated with less current (than competing device protocols).
- For particularly sensitive and delicate cells, identifying and only delivering the required energy (and no more) to porate the membrane is of utmost importance for their viability post electroporation.
- The success of the NEPA21 for cell electroporation is evident by the number of laboratories what have published with the NEPA21 system, and the quantum of client laboratory verified Viability % and Transfection Efficiency %.
- For Cell Electroporation with the NEPA21 system, the researcher can target both **Suspension Cells** (via the CU540 cuvette electrode) and **Cells In Adherence**, directly in the well-plate (via the CUY900-13-3-5 electrode).
- No special buffers required. Cost we electroporation can be as low as E3.50 per cuvette.
- With the NEPA21 system, the researcher can use the same cell system to target **Dissociated Organoids** (via the CU540 cuvette electrode). Regarding **Whole Organoids,** the CUY650P1 electrode is required.

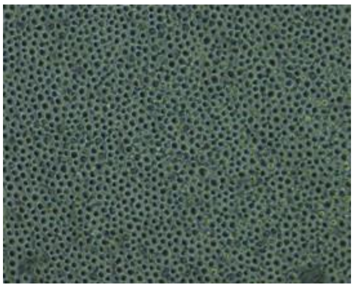
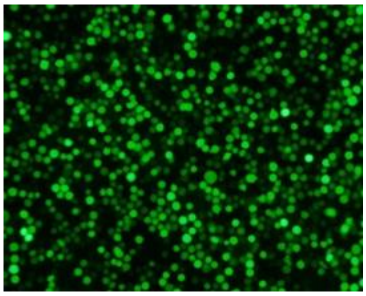
APPLICATIONS

Transfection into Cell

293T(HEK293T): Human Embryonic Kidney Cells

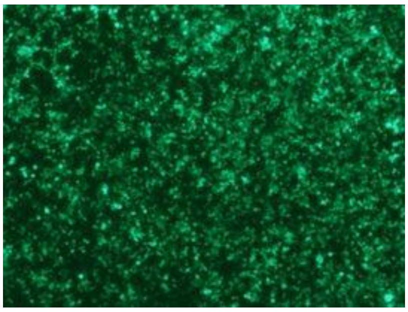
 Viabiliy：83％	 Transfection Effeciency：87％

Jurkat: Human T-cell Leukemia Cells

 Viability：73％	 Transfection Efficiency：94％

Neuro-2a: Mouse Neuroblastoma Cells

Viability：90%



Transfection Efficiency：90%

CELL LINES

Client Laboratory Verified RESULTS

Transfection into Cell Lines

Species: Human

See the cell images by clicking the cell names.
V: Viability, TE: Transfection Efficiency.

Cell Lines	V	TE		Cell Lines	V	TE
HeLa Human Cervical Carcinoma Cells	87%	93%		HeLa-K Human Cervical Carcinoma Cells	90%	90%
293 Human Embryonic Kidney Cells	92%	91%		293 Human Embryonic Kidney Cells	90%	70%
293 Human Embryonic Kidney Cells	72%	85%		293T Human Embryonic Kidney Cells	90%	95%
293T Human Embryonic Kidney Cells	83%	87%		293T Human Embryonic Kidney Cells	70%	99%
TIG-3 Human Embryonic Lung Fibroblasts	90%	80%		TIG-7 Human Embryonic Lung Fibroblasts	89%	76%
MRC-5 Human Embryonic Lung Fibroblasts	85%	90%		WI-38 Human Embryonic Lung Fibroblasts	80%	70%
WI-38 VA13 Human Lung Fibroblasts	93%	82%				
CCD18-Co Human Colon Fibroblasts	99%	61%		HaCat Human Keratinocyte Cells	96%	69%
HDF Human Dermal Fibroblasts (106-05)	90%	90%		TIG-109 Human Skin Fibroblasts	70%	60%
HFE145 Human Non-Cancerous Gastric Epithelial Cells	80%	50%		BEAS-2B Human Bronchial Epithelial Cells	75%	96%

BEAS-2B Human Bronchial Epithelial Cells	90%	80%		KMST-6 Human Fibroblasts	70%	60%
SUSM-1 Human Fibroblasts	77%	71%		SW872 Human Liposarcoma Cells	95%	83%
HT1080 Human Fibrosarcoma Cells	93%	81%		HT1080 Human Fibrosarcoma Cells	80%	90%
MG-63 Human Osteosarcoma Cells	70%	80%		Saos-2 Human Osteosarcoma Cells	80%	70%
Saos-2 Human Osteosarcoma Cells	60%	75%		U2OS Human Osteosarcoma Cells	70%	80%
SEKI Human Malignant Melanoma Cells	80%	75%		PANC-1 Human Pancreatic Carcinoma Cells	78%	70%
PANC-1 Human Pancreatic Carcinoma Cells	55%	75%		MIA-PaCa-2 Human Pancreatic Carcinoma Cells	80%	77%
HepG2 Human Hepatoma Cells	88%	76%		HuH-7 Human Hepatoma Cells	90%	86%
HuH-7 Human Hepatoma Cells	82%	85%		HLF Human Liver Cancer Cells	90%	85%
H69 Human Small-Cell Lung Cancer Cells	90%	85%				
TFK-1 Human Bile Duct Adenocarcinoma Cells	50%	70%		LC319 Human Lung Cancer Cells	95%	66%
NCI-H69 Human Small-Cell Lung Cancer Cells	97%	70%		H1299 Human Lung Cancer Cells	80%	80%
H1299 Human Lung Cancer Cells	90%	90%		HSC-2 Human Squamous Carcinoma Cells	93%	85%
KB31 Human Epidermoid Carcinoma Cells	58%	64%		Ca9-22 Human Squamous Carcinoma Cells	60%	60%
HSC-3 Human Squamous Carcinoma Cells	93%	98%		HEp-2 Human Laryngeal Carcinoma Cells	70%	90%
HGF Human Gingival Fibroblasts				MCF-7 Human Breast Cancer Cells	95%	80%
MCF-7 Human Breast Cancer Cells	81%	65%		T47D Human Breast Cancer Cells	90%	85%
MCF-7 Human Breast Cancer Cells	80%	70%		MDA-MB-231 Human Breast Cancer Cells	85%	90%
BT-20 Human Breast Cancer Cells	70%	80%		MCF 10A Human Breast Cells		

MCF 10A Human Breast Cells	90%	80%		A549 Human Lung Adenocarcinoma Cells	85%	90%
MCF 10A Human Breast Cells	97%	69%		GC38 Human Gastric Cancer Cells	80%	80%
NUGC-3 Human Gastric Carcinoma Cells	65%	77%		NUGC-3 Human Gastric Carcinoma Cells	73%	68%
MKN-45 Human Gastric Cancer Cells	78%	73%		Human Patient-Derived Gastric Cancer Cells	44%	74%
LNCaP Human Prostate Carcinoma	71%	90%		PC-3 Human Prostate Cancer Cells	90%	95%
DU145 Human Prostate Cancer Cells	94%	60%		PNT2 Human Prostate Epithelial Cells	85%	80%
PC-3 Human prostate Cancer Cells	86%	55%		HCT116 Human Colon Cancer Cells	80%	95%
Lovo Human Colon Adenocarcinoma Cells	85%	60%		HCT116 Human Colon Cancer Cells	95%	90%
HCT116 Human Colon Cancer Cells	80%	80%		Caco-2 Human Colon Cancer Cells	85%	80%
Caco-2 Human Colon Cancer Cells	95%	80%		OVCAR-3 Human Colon Cancer Cells	90%	79%
SW620 Human Colon Cancer Cells	80%	80%		RMG-1 Human Ovarian Clear Cell Adenocarcinoma	97%	67%
SKOV-3 Human Ovarian Carcinoma Cells	90%	90%		SH-SY5Y Human Neuroblastoma Cells	60%	90%
SK-N-SH Human Neuroblastoma Cells	95%	95%		SH-SY5Y Human Neuroblastoma Cells	79%	60%
SH-SY5Y Human Neuroblastoma Cells	70%	70%		NB69 Human Neuroblastoma Cells	95%	80%
NB9 Human Neuroblastoma Cells	70%	70%		KG-1-C Human Oligodendroglial Cells	85%	60%
NB-39-nu Human Neuroblastoma Cells	60%	63%		NP3 Human Glioblastoma Cells	98%	62%
A172 Human Glioblastoma Cells	85%	70%		1321N1 Human Astrocytoma Cells	80%	80%
U87 MG Human Glioblastoma/Astrocytoma Cells	70%	55%		Immortalized Human Pericytes	83%	50%
U-251 Human Glioblastoma Cells	90%	60%				

www.sonidel.com

iHAM-4 Human Amniotic Mesenchymal Cells	59%	95%		HTR-8/Svneo Human Trophoblast Cells	95%	67%
Human Dental Pulp Cells	90%	85%		Human Dental Pulp Cells	85%	69%
HK-2 Human Renal Proximal Tubule Epithelial Cells	50%	90%		RPTEC Human Renal Proximal Tubule Epithelial Cells	70%	85%
SRA 01/04 Human Lens Epithelial Cells	97%	80%		ARPE-19 Retinal Pigment Epithelium Cells	96%	69%
RPE Retinal Pigment Epithelium Cells	90%	70%		RPE-1 Retinal Pigment Epithelium Cells	95%	80%
Jurkat Human T-cell Leukemia Cells	73%	94%		Jurkat Human T-cell Leukemia Cells	89%	85%
Jurkat Human T-cell Leukemia Cells	85%	85%		Jurkat Human T-cell Leukemia Cells	99%	92%
ED40515 Human T-cell Leukemia CellsJurkat Human T-cell Leukemia Cells	82%	84%		Hut78 Human T-cell Lymphoma Cells	51%	74%
SNT16 Human T-cell Lymphoma Cells	85%	84%		Jeko-1 Human Mantle Cell Lymphoma (MCL) Cells	80%	63%
Jeko-1 Human Mantle Cell Lymphoma (MCL) Cells	82%	71%		MV4-11 Human Acute Myeloid Leukemia Cells	70%	60%
MOLT-4 Human Acute Lymphoblastic Leukemia Cells	95%	70%		MEC1 Human Chronic Lymphocytic Leukemia Cells	>90%	>90%
697 Human Pre-B Acute Lymphoblastic Leukemia Cells	68%	93%		Nalm-6 Human B-cell Precursor Leukemia Cells	97%	76%
Nalm-6 Human B-cell Precursor Leukemia Cells	77%	82%		KG-1 Human Acute Myeloid Leukemia Cells	70%	65%
KG-1 Human Acute Myeloid Leukemia Cells	60%	65%		PL-21 Human Acute Myeloid Leukemia Cells	51%	73%
MOLM-16 Human Acute Myeloid Leukemia Cells	74%	68%		USCD/AML1 Human Leukemia Cells	50%	50%
Kasumi-1 Human Acute Myeloid Leukemia Cells	66%	79%		KOPT-K1 Human T cell Acute Lymphoblastic Leukemia (T-ALL) Cells	80%	60%
M7 Human Acute Non Lymphocytic Leukemia	85%	80%		GM12878 Human B-Lymphoblastoid Cells	93%	83%
Loucy Human T cell Acute Lymphoblastic Leukemia (T-ALL) Cells	73%	50%		Human EBV-immortalized B Cells	58%	53%

T2 Human T and B lymphoblast Cells	97%	97%		Raji Human Burkitt's Lymphoma Cells	97%	83%
Namalwa Human Burkitt's Lymphoma Cells	70%	75%		Raji Human Burkitt's Lymphoma Cells	85%	79%
Raji Human Burkitt's Lymphoma Cells	95%	96%		SU-DHL-4 Human Burkitt's Lymphoma Cells	79%	68%
Toledo Human Burkitt's Lymphoma Cells	97%	83%				
SU-DHL-10 Human B-cell Lymphoma Cells	78%	68%		K562 Human Chronic Myelogenous Leukemia Cells	91%	99%
eHAP1 Human Haploid Cells	72%	65%		K562 Human Chronic Myelogenous Leukemia Cells	>90%	94%
K562 Human Chronic Myelogenous Leukemia Cells	>90%	>90%		HL-60 Human Promyelocytic Leukemia Cells	80%	80%
HL-60 Human Promyelocytic Leukemia Cells	81%	82%		Mutu Ⅰ Human Burkitt Lymphoma Cells	87%	91%
PLB-985 Human Myeloid Leukemia Cells	94%	92%		Ramos Human Burkitt Lymphoma Cells	92%	57%
Mutu III Human Burkitt Lymphoma Cells	54%	92%		Ramos-Blue Human Burkitt Lymphoma Cells	80%	55%
Ramos Human Burkitt Lymphoma Cells	83%	57%		BJAB Human EBV-negative Burkitt Lymphoma Cells	96%	96%
Z-138 Human Mantle Cell Lymphoma Cells	93%	86%		TK6 Human B-Lymphoblast Cells	84%	79%
SKM-1 Human MDS-derived Leukaemia Cells	88%	83%		THP-1 Human Acute Monocytic Leukemia Cells	56%	64%
THP-1 Human Acute Monocytic Leukemia Cells	76%	63%		THP-1 Human Acute Monocytic Leukemia Cells	67%	85%
THP-1 Human Acute Monocytic Leukemia Cells	85%	67%		NK-92MI Human Natural Killer (NK) Cells	83%	95%
HMC1.2 Human Mast Leukemia Cells	77%	89%		MTA Human Natural Killer-Like Leukemia Cells	65%	61%
KHYG-1 Human Natural Killer (NK)Lleukemia Cells	51%	71%				

Species: Mouse

See the cell images by clicking the cell names.

V: Viability, TE: Transfection Efficiency.

Cell Lines	V	TE		Cell Lines	V	TE
NIH/3T3 Mouse Embryonic Fibroblasts	100%	90%		NIH/3T3 Mouse Embryonic Fibroblasts	74%	81%
PT67 Mouse Fibroblasts (RetroPack PT67 cell line)	91%	66%		3T3-L1 Mouse Embryonic Fibroblasts (preadipocytes)	90%	90%
MEF Mouse Embryonic Fibroblasts	90%	90%		MEF Mouse Embryonic Fibroblasts	80%	90%
STO Mouse Embryonic Fibroblasts	60%	51%		N7 Mouse Embryonic Hypothalamic cells (immortalized)	75%	100%
P19C6 Mouse Embryonic Carcinoma Cells	90%	50%		F9 Mouse Testis Teratocarcinoma Cells	85%	95%
HL-1 Mouse Cardiac Muscle Cells	70%	70%		L Mouse Fibroblasts	90%	65%
B16 Mouse Melanoma Cells	86%	76%		B16 Mouse Melanoma Cells	77%	83%
B16 Mouse Melanoma Cells	70%	50%		MC3T3-E1 Mouse Osteoblastic Cells	85%	75%
C2C12 Mouse Myoblast Cells	94%	90%		C2C12 Mouse Myoblast Cells	90%	90%
C2C12 Mouse Myoblast Cells	80%	70%		C2C12 Mouse Myoblast Cells	94%	96%
bEnd.3 Mouse Brain Endothelial Cells	80%	80%		NMuMG Mouse Mammary Gland Epithelial Cells	80%	65%
Mouse Podocytes (Kidney Epithelial cells)	100%	84%		Mouse Podocytes (Kidney Epithelial cells)	66%	68%
SV40 MES 13 Mouse Mesangial Cells	68%	72%		LLc1 （LL/2） Lewis Lung Cell Carcinoma 1 Cells	87%	81%
FM3A Mouse Breast Cancer Cells	77%	57%		4T1 Mouse Breast Cancer Cells	90%	95%
Ehrlich Mouse Ehrlich-Lettre Ascites Carcinoma Cells	76%	68%		3134 Mouse Mammary Adenocarcinoma Cells	100%	70%
Hepa1-6 Mouse Hepatoma Cells	50%	98%		Colon-26 Mouse Colon Adenocarcinoma Cells	95%	90%

S180 Mouse Sarcoma Cells	72%	57%		LM8 Mouse Osteosarcoma Cells	90%	85%
ddy Mouse Endometrial Cells	60%	80%		MS-1 Mouse Pancreatic Endothelial Cells	90%	90%
AtT-20 Mouse Pituitary Tumor Cells	80%	80%		ID-8 Mouse Ovarian Cancer Cells	95%	99%
Neuro-2a Mouse Neuroblastoma Cells	90%	90%		TtT/GF Mouse Pituitary Folliculo-Stellate-Like Cells	65%	83%
GL261 E9 Mouse Glioma Cells	55%	57%		BV-2 Mouse Microglial Cells	92%	70%
BV-2 Mouse Microglial Cells	80%	80%		BV-2 Mouse Microglial Cells	90%	50%
SIM-A9 Mouse Microglial Cells	80%	57%				
mDP Mouse Dental Pupilla Cells	65%	70%		MEL Mouse Erythroleukemia Cells	70%	50%
L1210 Mouse Lymphocytic Leukemia Cells	85%	70%		WR19L Mouse T-cell lymphoma Cells	92%	60%
EL4 Mouse T-cell lymphoma Cells	87%	82%		BA/F3 Mouse pro-B Cells	91%	92%
BA/F3 Mouse pro-B Cells	90%	90%		A20 Mouse B-cell Lymphoma Cells	99%	85%
A20 Mouse B-cell Lymphoma Cells	70%	65%		CH12F3 Mouse B Lymphoma Cells	74%	77%
WEHI-231 Mouse B-cell Lymphoma Cells	98%	73%		P815 Mouse Mastocytoma Cells	67%	68%
J774.1 Mouse Macrophage-like Cells	100%	70%		RAW264.7 Mouse Macrophage-like Cells	70%	56%
RAW264.7 Mouse Macrophage-like Cells				RAW264.7 Mouse Macrophage-like Cells	70%	70%
RAW-D Mouse Macrophage-like Cells	80%	80%		MIN6 Mouse Pancreatic Beta Cells	57%	71%
DC2.4 Mouse Dendritic Cells	42%	66%		XS106 Mouse Dendritic Cells	61%	45%
mDC Mouse Myeloid Dendritic Cells	79%	72%		416B Mouse Primitive Myeloid Cells	89%	64%
32D Mouse Myeloid Cells		88%		MLO-Y4 Mouse Osteocyte-like cells	99%	59%

MC/9 Mouse Mast Cells	76%	84%		MC/9 Mouse Mast Cells	87%	89%
BMBa Mouse Bone marrow-derived basophils	45%	67%		TS Mouse Trophoblast Stem Cells	59%	47%
Mouse hybridoma cells (lymphocytes and myeloma cells)	100%	66%		Mouse T cell hybridoma cells Courtesy of Prof. Yokosuka and Dr. Wakamatsu, Department of Immunology, Tokyo Medical University	69%	90%

Species: Rat

See the cell images by clicking the cell names.
V: Viability, TE: Transfection Efficiency.

Cell Lines	V	TE		Cell Lines	V	TE
PC12 Rat Adrenal Pheochromocytoma Cells	90%	70%		H9c2 Rat Ventricular Myoblasts	71%	82%
H9c2 Rat Ventricular Myoblasts	75%	80%		REF Rat Embryonic Fibroblasts	90%	99%
RSC96 Rat Schwann Cells	70%	85%		A7r5 Rat Aortic Smooth Muscle Cells	93 %	75%
C6 Rat Glioma Cells	80%	67%		UMR106 Rat Osteoblastic Cells	80%	70%
RCS Rat Chondrosarcoma Cells	75%	50%		SF2 Rat Dental Epithelial Cells	80%	90%
HAT-7 Rat Dental Epithelial Cells	80%	90%				

Species: Chinese Hamster

See the cell images by clicking the cell names.
V: Viability, TE: Transfection Efficiency.

Cell Lines	V	TE		Cell Lines	V	TE
CHO Chinese Hamster Ovary Cells	74%	90%		CHO Chinese Hamster Ovary Cells	98%	87%
CHO Chinese Hamster Ovary Cells	97%	97%		CHO-DG44 Chinese Hamster Ovary Cells	86%	80%
CHO-K1 Chinese Hamster Ovary Cells	95%	95%		CHO-K1 Chinese Hamster Ovary Cells	90 %	99%
CHO-S Chinese Hamster Ovary Cells	94%	93%				

Other Species

See the cell images by clicking the cell names.
V: Viability, TE: Transfection Efficiency.

Cell Lines	V	TE		Cell Lines	V	TE

COS-7 African Green Monkey Kidney fibroblasts	61%	89%		Vero African Green Monkey Kidney Epithelial Cells	85%	85%
MDCK Madrin-Darby Canine Kidney Cells	90%	95%		MDCK Madrin-Darby Canine Kidney Cells	91%	80%
BFF Bovine Fetal Fibroblasts	93%	71%		BFF Bovine Fetal Fibroblasts	78%	72%
CKT-1 Bovine Kidney Epithelial Cells	75%	75%		Bovine Fibroblasts	90%	63%
BAEC Bovine Aortic Endothelial Cells	80%	80%		LLC-PK1 Pig Kidney Epithelial Cells	80%	85%
CPK Porcine Kidny Cells	93%	60%		PGCs Chicken Primordial Germ Cells	98%	63%
DT40 Chichken B Cells	72%	85%		DT40 Chichken B Cells	71%	60%
A6 Xenopus Kidney Epithelial Cells	90%	60%		Exosomes (labeled DNA oligos)		

We have a lot of data of cell transfection with high efficiency and high viability. Please feel to free to contact us for the latest data.

PUBLICATIONS

Cell Lines

SH-SY5Y	**EBV LCL**	**MEF**	**CTL (Cytotoxic T Lymphocytes)**
Caco2	**FGBC8**	**Hepa1_6**	**ZS mouse embryonic fibroblasts**
Jurkat	**LN_229**	**Mouse Hepatoma Cells**	**Rat Dermal Fibroblast Cell Sheets**
MT_2	**CH12F3**	**U251**	**Bovine Fetal Fibroblast Cells**
T cells	**MSS31**	**Ba/F3**	**Bovine Ear derived Fibroblast Cells**
Pan02	**KLM1**	**RSC96**	**Chick Spinal Cord Neurons**
ME-1_A-E	**PC-3**	**RAW264.7**	
CD34+	**PAC2**	**HCS-2/8**	**Olive flounder ovarian (OFO)**
MC3T3_e1	**Zebrafish Fibroblast Cells**	**MDCK**	**Olive flounder testicular (OFT)**
HEK293	**HeLa**	**MDCK-II**	
HEK293A	**TIG-7**	**MDA MB 231**	
HEK293T	**NIH/3T3**	**Human CLL cells**	
THP-1	**CHO**	**Human RD cells**	
CaCo2 / 47D	**C2C12**		
HCC1937-BL	**3T3-L1**		

SH-SY5Y

Human Neuroblastoma Cells

Alternative Splicing Alterations in Patients With Amyotrophic Lateral Sclerosis: Link to the Disruption of TAR DNA-Binding Protein 43 kDa Functions

Miwa, T., Takeuchi, E., Ogawa, K., Abdelhamid, R.F., Morita, J., Hiraki, Y., Yasumizu, Y., Nakamura, Y., Ohkura, N., Saito, Y., Murayama, S., Nagai, Y., Mochizuki, H. and Nagano, S.

Neurology and Clinical Neuroscience, 2025.

Caco2

Human Colon Cancer Cells

Generation and application of CES1-knockout Tet-Off-regulated CYP3A4 and UGT1A1-expressing Caco-2 cells

Murata M, Okada K, Takahashi M, Ueyama-Toba Y, Ito S, Mizuguchi H.

Toxicol Lett. 2024 Nov: 401:158-169.

Jurkat

Impaired Lymphocyte Function and Differentiation in CTPS1-deficient Patients Result From a Hypomorphic Homozygous Mutation
Emmanuel Martin, Norbert Minet, Anne-Claire Boschat, Sylvia Sanquer, Steicy Sobrino, Christelle Lenoir, Jean Pierre de Villartay, Maria Leite-de-Moraes, Capucine Picard, Claire Soudais, Tim Bourne, Sophie Hambleton, Stephen M Hughes, Robert F Wynn, Tracy A Briggs, Genomics England Research Consortium; Smita Patel, Monica G Lawrence, Alain Fischer, Peter D Arkwright, Sylvain Latour
JCI Insight. 2020 Mar 12;5(5): e133880.

Transcription activator-like effector nuclease-mediated transduction of exogenous gene into IL2RG locus.
Matsubara Y, Chiba T, Kashimada K, Morio T, Takada S, Mizutani S, Asahara H
Sci Rep. 2014 May 23; 4:5043.

Epigenetic regulation of microRNA-128a expression contributes to the apoptosis-resistance of human T-cell leukaemia jurkat cells by modulating expression of fas-associated protein with death domain (FADD).
Yamada N, Noguchi S, Kumazaki M, Shinohara H, Miki K, Naoe T, Akao Y
Biochim Biophys Acta. 2014 Mar;1843(3):590-602.

Jurkat
MT_2

CRISPR/Cas9-mediated RELA and RELC knockout in human regulatory T cells abrogates FOXP3 expression and suppressive function
Sato Y, Hanawa Y, Tsubota A.
Clinical Immunology Communications, Volume 6, 2024, Pages 15-25, ISSN 2772-6134.

Jurkat
MT 2
T cells

A T-cell line derived from normal human cord leukocytes by co-culturing with human leukemic T-cells
Non-canonical NFKB signaling endows suppressive function through FOXP3-dependent regulatory T cell program
Sato Y, Osada E, Manome Y.
Heliyon. 2023 Nov 26;9(12): e22911.

Pan02

Delivery of a BET protein degrader via a CEACAM6-targeted antibody-drug conjugate inhibits tumour growth in pancreatic cancer models
Nakazawa Y, Miyano M, Tsukamoto S, Kogai H, Yamamoto A, Iso K, Inoue S, Yamane Y, Yabe Y, Umihara H, Taguchi J, Akagi T, Yamaguchi A, Koga M, Toshimitsu K, Hirayama T, Mukai Y, Machinaga A.
Nat Commun. 2024 Mar 11;15(1):2192.

ME-1_A-E
CD34+

Addiction of t(8;21) and inv(16) acute myeloid leukemia to native RUNX1.
Ben-Ami O, Friedman D, Leshkowitz D, Goldenberg D, Orlovsky K, Pencovich N, Lotem J, Tanay A, Groner Y.
Cell Rep. 2013 Sep 26;4(6):1131-43.

MC3T3_e1

Tmem161a regulates bone formation and bone strength through the P38 MAPK pathway
Nagai T, Sekimoto T, Kurogi S, Ohta T, Miyazaki S, Yamaguchi Y, Tajima T, Chosa E, Imasaka M, Yoshinobu K, Araki K, Araki M, Choijookhuu N, Sato K, Hishikawa Y, Funamoto T.
Sci Rep. 2023 Sep 5;13(1):14639.

HEK293

Cis-mediated interactions of the SARS-CoV-2 frameshift RNA alter its conformations and affect function
Pekarek L, Zimmer MM, Gribling-Burrer AS, Buck S, Smyth R, Caliskan N.
Nucleic Acids Res. 2023 Jan 25;51(2):728-743.

Novel Reporter System Monitoring IL-18 Specific Signaling Can Be Applied to High-Throughput Screening
Riho Kurata, Kenji Shimizu, Xiaofeng Cui, Masamitsu Harada, Takayuki Isagawa, Hiroaki Semba, Jun Ishihara, Koji Yamada, Jun Nagai, Yasuhiro Yoshida, Norihiko Takeda, Koji Maemura, Tomo Yonezawa
Mar Drugs. 2020 Jan 17;18(1):60.

Establishment of Novel Reporter Cells Stably Maintaining Transcription Factor-driven Human Secreted Alkaline Phosphatase Expression.
Kurata R, Kumagai A, Cui X, Harada M, Nagai J3, Yoshida Y, Ozaki KI, Tanaka Y, Yonezawa T
Curr Pharm Biotechnol. 2018;19(3):224-231.

CRISPR/Cas9-mediated genome editing in wild-derived mice: generation of tamed wild-derived strains by mutation of the a (nonagouti) gene.
Hirose M, Hasegawa A, Mochida K, Matoba S, Hatanaka Y, Inoue K, Goto T, Kaneda H, Yamada I, Furuse T, Abe K, Uenoyama Y, Tsukamura H, Wakana S, Honda A, Ogura A
Sci Rep. 2017 Feb 14; 7:42476.

HEK293A

Reactivating Hippo by Drug Compounds to Suppress Gastric Cancer and Enhance Chemotherapy Sensitivity
Cao Z, Hou Y, Zhao Z, Zhang H, Tian L, Zhang Y, Dong C, Guo F, Tan L, Han Y, Wang W, Jiao S, Tang Y, An L, Zhou Z.
J Biol Chem. 2024 Apr 22:107311.

HEK293T

Inherited C-terminal TREX1 variants disrupt homology-directed repair to cause senescence and DNA damage phenotypes in Drosophila, mice, and humans
Chauvin SD, Ando S, Holley JA, Sugie A, Zhao FR, Poddar S, Kato R, Miner CA, Nitta Y, Krishnamurthy SR, Saito R, Ning Y, Hatano Y, Kitahara S, Koide S, Stinson WA, Fu J, Surve N, Kumble L, Qian W, Polishchuk O, Andhey PS, Chiang C, Liu G, Colombeau L, Rodriguez R, Manel N, Kakita A, Artyomov MN, Schultz DC, Coates PT, Roberson EDO, Belkaid Y, Greenberg RA, Cherry S, Gack MU, Hardy T, Onodera O, Kato T, Miner JJ.
Nat Commun. 2024 Jun 1;15(1):4696.

THP-1

Tobacco-induced hyperglycemia promotes lung cancer progression via cancer cell-macrophage interaction through paracrine IGF2/IR/NPM1-driven PD-L1 expression
Jang HJ, Min HY, Kang YP, Boo HJ, Kim J, Ahn JH, Oh SH, Jung JH, Park CS, Park JS, Kim SY, Lee HY.
Nat Commun. 2024 Jun 8;15(1):4909.

Widespread S-persulfidation in activated macrophages as a protective mechanism against oxidative-inflammatory stress
Salti T, Braunstein I, Haimovich Y, Ziv T, Benhar M.
Redox Biol. 2024 Jun:72:103125.

Caco2
T47D

Human Colon Cancer Cells
Dynamic movement of the Golgi unit and its glycosylation enzyme zones
Harada A, Kunii M, Kurokawa K, Sumi T, Kanda S, Zhang Y, Nadanaka S, Hirosawa KM, Tokunaga K, Tojima T, Taniguchi M, Moriwaki K, Yoshimura SI, Yamamoto-Hino M, Goto S, Katagiri T, Kume S, Hayashi-Nishino M, Nakano M, Miyoshi E, Suzuki KGN, Kitagawa H, Nakano A.
Nat Commun. 2024 May 27;15(1):4514.

HCC1937-BL

Evaluating homologous recombination activity in tissues to predict the risk of hereditary breast and ovarian cancer and olaparib sensitivity
Motonari T, Yoshino Y, Haruta M, Endo S, Sasaki S, Miyashita M, Tada H, Watanabe G, Kaneko T, Ishida T, Chiba N.
Sci Rep. 2024 Apr 8;14(1):7519.

EBV LCL

Role of IL-27 in Epstein–Barr virus infection revealed by IL-27RA deficiency
Martin E, Winter S, Garcin C, Tanita K, Hoshino A, Lenoir C, Fournier B, Migaud M, Boutboul D, Simonin M, Fernandes A, Bastard P, Le Voyer T, Roupie AL, Ben Ahmed Y, Leruez-Ville M, Burgard M, Rao G, Ma CS, Masson C, Soudais C, Picard C, Bustamante J, Tangye SG, Cheikh N, Seppänen M, Puel A, Daly M, Casanova JL, Neven B, Fischer A, Latour S.
Nature. 2024 Apr;628(8008):620-629.

FGBC8

Olive flounder (Paralichthys olivaceus) embryonic cell line (FGBC8)
Molecular cytogenetic analysis of the olive flounder embryonic cell line FGBC8 and its applicability to biotechnology
Jeon AY, Cho JY, Park J, Kim WJ, Kim YO, Kong HJ, Kim JW.
Fish Shellfish Immunol. 2023 Nov: 142:109077.

LN_229

Brain-specific glycosylation enzyme GnT-IX maintains levels of protein tyrosine phosphatase receptor PTPRZ, thereby mediating glioma growth
Nagai K, Muto Y, Miura S, Takahashi K, Naruse Y, Hiruta R, Hashimoto Y, Uzuki M, Haga Y, Fujii R, Ueda K, Kawaguchi Y, Fujii M, Kitazume S.
J Biol Chem. 2023 Sep;299(9):105128.

CH12F3

Mouse cell line derived from B cell lymphoma
C-terminal deletion-induced condensation sequesters AID from IgH targets in immunodeficiency
Xie X, Gan T, Rao B, Zhang W, Panchakshari RA, Yang D, Ji X, Cao Y, Alt FW, Meng FL, Hu J.
EMBO J. 2022 Jun 1;41(11):e109324.

MSS31

Mouse endothelial cells
MTA1, a metastasis-associated protein, in endothelial cells is an essential molecule for angiogenesis
Ishikawa M, Osaki M, Uno N, Ohira T, Kugoh H, Okada F.
Mol Med Rep. 2022 Jan;25(1):11.

KLM1

SNAIL2 contributes to tumorigenicity and chemotherapy resistance in pancreatic cancer by regulating IGFBP2
Masuo K, Chen R, Yogo A, Sugiyama A, Fukuda A, Masui T, Uemoto S, Seno H, Takaishi S.
Cancer Sci. 2021 Dec;112(12):4987-4999.

PC-3

Cell Stress Induced Stressome Release Including Damaged Membrane Vesicles and Extracellular HSP90 by Prostate Cancer Cells
Takanori Eguchi, Chiharu Sogawa, Kisho Ono, Masaki Matsumoto, Manh Tien Tran, Yuka Okusha, Benjamin J Lang, Kuniaki Okamoto, Stuart K Calderwood
Cells. 2020 Mar 19;9(3):755.

PAC2
Zebrafish_Fibroblast_Cells

The inducible lac operator-repressor system is functional in zebrafish cells
Nishizaki SS, McDonald TL, Farnum GA, Holmes MJ, Drexel ML, Switzenberg JA, Boyle AP.
Front Genet. 2021 Jun 18; 12:683394.

HeLa

Human Cervical Carcinoma Cells
Ub-ProT reveals global length and composition of protein ubiquitylation in cells.
Tsuchiya H, Burana D, Ohtake F, Arai N, Kaiho A, Komada M, Tanaka K, Saeki Y
Nat Commun. 2018 Feb 6;9(1):524.

Human Cervical Carcinoma Cells
A New Carbamidemethyl-Linked Lanthanoid Chelating Tag for PCS NMR Spectroscopy of Proteins in Living HeLa Cells
Yuya Hikone, Go Hirai, Masaki Mishima, Kohsuke Inomata, Teppei Ikeya, Souichiro Arai, Masahiro Shirakawa, Mikiko Sodeoka, Yutaka Ito
J Biomol NMR. 2016 Oct;66(2):99-110.

TIG-7
HeLa

Human Embryonic Lung Fibroblasts and Human Cervical Carcinoma Cells
ERK1/2 mediates unbalanced growth leading to senescence induced by excess thymidine in human cells.
Kobayashi Y, Lee SS, Arai R, Miki K, Fujii M, Ayusawa D
Biochem Biophys Res Commun. 2012 Sep 7;425(4):897-901

HeLa
NIH/3T3

Human Cervical Carcinoma Cells and Mouse Embryonic Fibroblasts
Modulating dynamics and function of nuclear actin with synthetic bicyclic peptides
Machida N, Takahashi D, Ueno Y, Nakama Y, Gubeli RJ, Bertoldo D, Harata M.
J Biochem. 2021 Apr 18;169(3):295-302.

NIH/3T3

Mouse Embryonic Fibroblasts
Molecular mechanism regulating 24-hour rhythm of dopamine D3 receptor expression in mouse ventral striatum.
Ikeda E, Matsunaga N, Kakimoto K, Hamamura K, Hayashi A, Koyanagi S, Ohdo S.
Mol Pharmacol. 2013 May;83(5):959-67.

CHO

Optimized CRISPR/Cas9 Strategy for Homology-Directed Multiple Targeted Integration of Transgenes in CHO Cells
Sung Wook Shin, Jae Seong Lee
Biotechnol Bioeng 2020 Feb 22 [Online ahead of print]

Convallatoxin Enhance the Ligand-Induced Mu-Opioid Receptor Endocytosis and Attenuate Morphine Antinociceptive Tolerance in Mice
Po-Kuan Chao, Hsiao-Fu Chang, Li-Chin Ou, Jian-Ying Chuang, Pin-Tse Lee, Wan-Ting Chang, Shu-Chun Chen, Shau-Hua Ueng, John Tsu-An Hsu, Pao-Luh Tao, Ping-Yee Law, Horace H Loh, Shiu-Hwa Yeh
Sci Rep, 9 (1), 2405 2019 Feb 20

Diversity of the Expression Profiles of Late Embryogenesis Abundant (LEA) Protein Encoding Genes in the Anhydrobiotic Midge Polypedilum Vanderplanki
Rie Hatanaka, Oleg Gusev, Richard Cornette, Sachiko Shimura, Shingo Kikuta, Jun Okada, Takashi Okuda, Takahiro Kikawada
Planta, 242 (2), 451-9 Aug 2015

C2C12

Glucosamine induces increased musclin gene expression through endoplasmic reticulum stress-induced unfolding protein response signaling pathways in mouse skeletal muscle cells.
Guo Q, Hu H, Zhou Y, Yan Y, Wei X, Fan X, Yang D, He H, Oh Y, Chen K, Wu Q, Liu C, Gu N
Food Chem Toxicol. 2019 Mar;125:95-105.

LRP4 third β-propeller domain mutations cause novel congenital myasthenia by compromising agrin-mediated MuSK signaling in a position-specific manner.
Ohkawara B, Cabrera-Serrano M, Nakata T, Milone M, Asai N, Ito K, Ito M, Masuda A, Ito Y, Engel AG, Ohno K
Hum Mol Genet. 2013 Nov 29. [Epub ahead of print]

3T3-L1

The Gata2 repression during 3T3-L1 preadipocyte differentiation is dependent on a rapid decrease in histone acetylation in response to glucocorticoid receptor activation.
Ishijima Y, Ohmori S, Uneme A, Aoki Y, Kobori M, Ohida T, Arai M, Hosaka M, Ohneda K
Mol Cell Endocrinol. 2019 Mar 1;483:39-49.

MEF
3T3-L1

SUMO-Specific Protease 1 De-SUMOylates Sharp-1 and Controls Adipocyte Differentiation.
Liu B1, Wang T, Mei W, Li D, Cai R, Zuo Y, Cheng J
J Biol Chem. 2014 Jun 18.

Hepa1_6
Mouse Hepatoma Cells

Trehalose Protects Against Oxidative Stress by Regulating the Keap1-Nrf2 and Autophagy Pathways
Yuhei Mizunoe, Masaki Kobayashi, Yuka Sudo, Shukoh Watanabe, Hiromine Yasukawa, Daiki Natori, Ayana Hoshino, Arisa Negishi, Naoyuki Okita, Masaaki Komatsu, Yoshikazu Higami
Redox Biol. 2018 May;15:115-124.

U251

TET1 exerts its tumor suppressor function by regulating autophagy in glioma cells.
Fu R, Ding Y, Luo J, Yu L, Li CL, Li DS, Guo SW.
Biosci Rep. 2017 Mar 24. pii: BSR20160523.

Ba/F3

Tim4- and MerTK-mediated engulfment of apoptotic cells by mouse resident peritoneal macrophages.
Nishi C, Toda S, Segawa K, Nagata S.
Mol Cell Biol. 2014 Apr;34(8):1512-20.

RSC96

Krüppel-like factor 6 rendered rat Schwann cell more sensitive to apoptosis via upregulating FAS expression.
Gui T, Wang Y, Zhang L, Wang W, Zhu H, Ding W.
PLoS One. 2013 Dec 4;8(12):e82449.

RAW264.7

Mouse Macrophage-like Cells
VIP36 protein is a target of ectodomain shedding and regulates phagocytosis in macrophage Raw 264.7 cells.

Shirakabe K, Hattori S, Seiki M, Koyasu S, Okada Y
J Biol Chem. 2011 Dec 16;286(50):43154-63.

HCS-2/8

human chondrosarcoma cell line
A selective estrogen receptor modulator inhibits tumor necrosis factor-α-induced apoptosis through the ERK1/2 signaling pathway in human chondrocytes.
Hattori Y, Kojima T, Kato D, Matsubara H, Takigawa M, Ishiguro N.
Biochem Biophys Res Commun. 2012 May 11;421(3):418-24.

MDCK
MDCK-II

The novel PAR-1-binding protein MTCL1 has crucial roles in organizing microtubules in polarizing epithelial cells.
Sato Y, Akitsu M, Amano Y, Yamashita K, Ide M, Shimada K, Yamashita A, Hirano H, Arakawa N, Maki T, Hayashi I, Ohno S, Suzuki A.
J Cell Sci. 2013 Oct 15;126(Pt 20):4671-83.

MDA MB 231

RNA binding protein ZCCHC24 promotes tumorigenicity in triple-negative breast cancer
Uchida Y, Kurimoto R, Chiba T, Matsushima T, Oda G, Onishi I, Takeuchi Y, Gotoh N, Asahara H.
EMBO Rep. 2024 Oct 17.

Tumor-derived exosomal circPSMA1 facilitates the tumorigenesis, metastasis, and migration in triple-negative breast cancer (TNBC) through miR-637/Akt1/β-catenin (cyclin D1) axis
Yang SJ, Wang DD, Zhong SL, Chen WQ, Wang FL, Zhang J, Xu WX, Xu D, Zhang Q, Li J, Zhang HD, Hou JC, Mao L, Tang JH.
Cell Death Dis. 2021 Apr 28;12(5):420.

Human CLL cells

NFKBIE mutations are selected by the tumor microenvironment and contribute to immune escape in chronic lymphocytic leukemia
Bonato A, Chakraborty S, Bomben R, Canarutto G, Felician G, Martines C, Zucchetto A, Pozzo F, Vujovikj M, Polesel J, Chiarenza A, Del Principe MI, Del Poeta G, D'Arena G, Marasca R, Tafuri A, Laurenti L, Piazza S, Dimovski AJ, Gattei V, Efremov DG.
Leukemia. 2024 Mar 15.

Human RD cells

Human Rhabdomyosarcoma cell lines
The TLR3 L412F polymorphism prevents TLR3-mediated tumor cell death induction in pediatric sarcomas
Bisaccia J, Meyer S, Bertrand-Chapel A, Hecquet Q, Barbet V, Kaniewski B, Léon S, Gadot N, Rochet I, Fajnorova I, Leblond P, Cordier-Bussat M, Corradini N, Vasiljevic A, Billaud M, Picard C, Broutier L, Gallerne C, Dutour A, Blay JY, Castets M.
Cell Death Discov. 2023 Jul 7;9(1):230.

CTL (Cytotoxic T Lymphocytes)

Increased Antitumor Efficacy of PD-1-deficient Melanoma-Specific Human Lymphocytes
Ben-Lucine Marotte, Sylvain Simon, Virginie Vignard, Emilie Dupre, Malika Gantier, Jonathan Cruard, Jean-Baptiste Alberge, Melanie Hussong, Cecile Deleine, Jean-Marie Heslan, Jonathan Shaffer, Tiffany Beauvais, Joelle Gaschet, Emmanuel Scotet, Delphine Fradin, Anne Jarry, Tuan Nguyen, Nathalie Labarriere
J Immunother Cancer. 2020 Jan;8(1): e000311.

ZS mouse embryonic fibroblasts

Sphingomyelin synthase 2, but not sphingomyelin synthase 1, is involved in HIV-1 envelope-mediated membrane fusion.
Hayashi Y, Nemoto-Sasaki Y, Tanikawa T, Oka S, Tsuchiya K, Zama K, Mitsutake S, Sugiura T, Yamashita A.
J Biol Chem. 2014 Oct 31;289(44):30842-56.

Rat Dermal Fibroblast Cell Sheets

Transplanted fibroblast cell sheets promote migration of hepatic progenitor cells in the incised host liver in allogeneic rat model.
Muraoka I, Takatsuki M, Sakai Y, Tomonaga T, Soyama A, Hidaka M, Hishikawa Y, Koji T, Utoh R, Ohashi K, Okano T, Kanematsu T, Eguchi S.
J Tissue Eng Regen Med. 2013 Mar 12.

Bovine Ear derived Fibroblast Cells

Establishment of protocol for preparation of gene-edited bovine ear-derived fibroblasts for somatic cell nuclear transplantation.
Ishino T, Hashimoto M, Amagasa M, Saito N, Dochi O, Kirisawa R, Kitamura H
Biomed Res. 2018;39(2):95-104.

Bovine Fetal Fibroblast Cells

Correction of a Disease Mutation using CRISPR/Cas9-assisted Genome Editing in Japanese Black Cattle.
Ikeda M, Matsuyama S, Akagi S, Ohkoshi K, Nakamura S, Minabe S, Kimura K, Hosoe M
Sci Rep. 2017 Dec 19;7(1):17827.

Chick Spinal Cord Neurons

Formin-2 regulates stabilization of filopodial tip adhesions in growth cones and affects neuronal outgrowth and pathfinding in vivo.
Sahasrabudhe A, Ghate K, Mutalik S, Jacob A, Ghose A
Development. 2015 Dec 30. pii: dev.130104. [Epub ahead of print]

Olive flounder ovarian (OFO)
Olive flounder testicular (OFT)

Establishment and Characterization of OFT and OFO Cell Lines from Olive Flounder (Paralichthys olivaceus) for Use as Feeder Cells
Jo JY, Kim J-W, Noh ES, Kim Y-O, Gong SP, Kong HJ, Choi JH.
Biology 2025, 14(3), 229.