

Table 5. Primary Cells and Cell Lines Successfully Transfected Using ProteanFect™ TuffCell Transfection Kit

Cell Type		Tested Cargo	Transfection Efficiency	Reagent C Requirement
Primary Cells	Human T Cells	mRNA, siRNA, RNP	50-100%	+
	Human B Cells	mRNA, siRNA, RNP	20-75%	+
	Human Natural Killer Cells	mRNA, siRNA, RNP	25-75%	+
	iPSCs (Induced Pluripotent Stem Cells)	pDNA, mRNA, siRNA, RNP	50-100%	+
	HSCs (Human CD34+ Hematopoietic Stem Cells)	mRNA, siRNA, RNP	50-100%	+
	UC-MSCs (Umbilical Cord Mesenchymal Stem Cells)	mRNA, siRNA	50-100%	+
	Human Skin Fibroblasts	pDNA, mRNA, siRNA	50-100%	+
	KSL (Mouse Hematopoietic Stem Cells)	mRNA, siRNA	50-100%	+
	Mouse Neurons	pDNA, mRNA, siRNA	10-50%	+
	Mouse Oligodendrocytes	pDNA, mRNA, siRNA	50-100%	+
	Porcine Macrophages	mRNA, siRNA	50-75%	+
	Bovine Fibroblasts	mRNA, siRNA	50-100%	+
	M. rosenbergii Hemocytes	mRNA, siRNA	25-75%	+
	Chicken Primordial Germ Cells	mRNA, siRNA, RNP	25-100%	+
	L. crocea Mesenchymal Stem Cells	mRNA, siRNA	25-50%	+

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Cell Type		Tested Cargo	Transfection Efficiency	Reagent C Requirement
Cell Lines	Jurkat (Human T Cells)	pDNA, mRNA, siRNA, RNP	50-100%	±
	MOLT-16 (Human T-ALL Cells)	mRNA, siRNA	10-30%	+
	Raji (Human B Cells)	mRNA, siRNA	50-100%	±
	MEC-1 (Human B Cells)	mRNA, siRNA	50-100%	NA
	TMD8 (Human Diffuse Large B-Cell Lymphoma Cells)	mRNA, siRNA	50-100%	+
	NK-92 (Human Natural Killer Cells)	mRNA, siRNA	25-75%	±
	K562 (Human Chronic Myeloid Leukemia)	pDNA, mRNA, siRNA, RNP	30-100%	±
	THP-1 (Human Monocytic Cells)	mRNA, siRNA	50-100%	±
	Kasumi-1 (Human Acute Myeloid Leukemia)	mRNA, siRNA, RNP	50-100%	±
	MDS-L (Human Leukemia Cells)	mRNA, siRNA	50-100%	+
	U937 (Human Myeloid Leukemia)	mRNA, siRNA	50-75%	+
	HL-60 (Human Promyelocytic Leukemia)	mRNA, siRNA	50-100%	+
	HFF (Human Fibroblasts)	mRNA, siRNA, RNP	50-100%	±
	LX-2 (Human Hepatic Stellate Cells)	pDNA, mRNA, siRNA	50-100%	±
	HepG2 (Human Liver Carcinoma)	pDNA, mRNA, siRNA, RNP	25-75%	±
	KYSE-510 (Human Esophageal Squamous Cell Carcinoma)	mRNA, siRNA	50-100%	±

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Cell Lines	Mum2B (Human Melanoma)	mRNA, siRNA	50-100%	+
	H1-hESC (Human Embryonic Stem Cells)	pDNA, mRNA, siRNA	50-100%	±
	U2OS (Human Osteosarcoma)	pDNA, mRNA, siRNA	50-100%	±
	HT-29 (Human Colorectal Adenocarcinoma Cells)	pDNA, mRNA, siRNA	50-100%	NA
	5637 (Human Bladder Carcinoma Cells)	pDNA, mRNA, siRNA, RNP	50-100%	+
	HGC-27 (Human Gastric Carcinoma Cells)	mRNA, siRNA	50-100%	±
	SH-SY5Y (Human Neuroblastoma Cells)	pDNA, mRNA, siRNA	50-100%	+
	U251MG Cells (Human Glioblastoma Cells)	mRNA, siRNA)	50-100%	+
	HEK293 (Human Embryonic Kidney Cells)	pDNA, mRNA, siRNA, RNP	50-100%	±
	Neuro 2A (Mouse Neuroblastoma Cells)	pDNA, mRNA, siRNA	50-100%	±
	MC38 (Mouse Colon Adenocarcinoma Cells)	mRNA, siRNA	25-75%	±
	RAW264.7 (Mouse Macrophages)	mRNA, siRNA	50-80%	±
	LLC (Mouse Lewis Lung Carcinoma)	pDNA, mRNA, siRNA	50-100%	+
	CH12 (Mouse Lymphoma Cells)	mRNA, siRNA	50-100%	+

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Cell Type		Tested Cargo	Transfection Efficiency	Reagent C Requirement
Cell Lines	BV-2 (Mouse Microglial Cells)	mRNA, siRNA	25-50%	±
	C2C12 (Mouse Myoblasts)	pDNA, mRNA, siRNA	50-100%	±
	B16 (Mouse Melanoma Cells)	mRNA, siRNA	25-75%	NA
	MH-S (Mouse Macrophages)	mRNA, siRNA	25-50%	+
	MODE-K (Mouse Intestinal Epithelial Cells)	mRNA, siRNA	50-100%	NA
	MEF (Mouse Embryonic Fibroblasts)	pDNA, mRNA, siRNA	25-100%	+
	3T3 (Mouse Embryonic Fibroblasts)	mRNA, siRNA	25-50%	+
	OLN93 (Rat Oligodendrocyte Cells)	mRNA, siRNA	50-100%	+
	MDBK (Bovine Kidney Epithelial Cells)	mRNA, siRNA	50-100%	+
	MAC-T (Bovine Mammary Epithelial Cells)	mRNA, siRNA	50-100%	+
	COS-7 (Monkey Kidney Fibroblast-like Cells)	pDNA, mRNA, siRNA	50-100%	±

NA, Data provided by customers; specific use of Reagent C was not confirmed. **±**, Robust transfection is achieved in both cases.