

Materials List for:

Application of Genetically Encoded Fluorescent Nitric Oxide (NO•) Probes, the geNOps, for Real-time Imaging of NO• Signals in Single Cells

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Materials

Name	Company	Catalog Number	Comments
NaCl	Carl Roth, Karlsruhe, Germany	3957.20	sodium chloride
KCl	Carl Roth, Karlsruhe, Germany	6781.1	potassium chloride
CaCl ₂ ·2H ₂ O	Carl Roth, Karlsruhe, Germany	T885.1	calcium chloride dihydrate
MgCl ₂ ·6H ₂ O	Carl Roth, Karlsruhe, Germany	2189.2	magnesium chloride hexahydrate
HEPES	Carl Roth, Karlsruhe, Germany	9105.3	4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid
NaHCO ₃	Carl Roth, Karlsruhe, Germany	8551.1	sodium hydrogencarbonate
KH ₂ PO ₄	Merck, Darmstadt, Germany	104873	potassium dihydrogen phosphate
Na ₂ HPO ₄ ·2H ₂ O	Carl Roth, Karlsruhe, Germany	4984.1	sodium hydrogenphosphate dihydrate
D(+)-Glucose monohydrate	Carl Roth, Karlsruhe, Germany	6780.1	>99.5%; for cell culture, endotoxin free
EGTA	Carl Roth, Karlsruhe, Germany	3054.2	ethylene glycol-bis(2-aminoethylether)-N,N,N',N'-tetraacetic acid; calcium chelating agent
NaOH	Carl Roth, Karlsruhe, Germany	6771.1	sodium hydroxide
HCl	Carl Roth, Karlsruhe, Germany	4625.1	hydrochloric acid, fuming, 37% (~10 N)
DMSO	Carl Roth, Karlsruhe, Germany	4720.1	dimethyl sulfoxide; highly polar, aprotic organic solvent
L-Glutamic acid hydrochloride	Sigma Aldrich, Vienna, Austria	G2128	(S)-2-Aminoglutaric acid
DMEM, low glucose	Sigma Aldrich, Vienna, Austria	D5523	Dulbecco's Modified Eagle's Medium - low glucose; with 1,000 mg/L glucose and L-glutamine, without sodium bicarbonate, powder, suitable for cell culture
MEM Vitamin solution (100x)	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	11120037	100x the vitamins found in the standard Minimum Essential Medium (MEM)
MEM Amino acids solution (50x)	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	11130036	50x the essential amino acids (except L-glutamine) found in the standard Minimum Essential Medium (MEM)
Penicillin-Streptomycin (10,000 U/ml)	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	15140122.00	antibiotics to prevent bacterial contamination of cell cultures
Amphotericin B	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	15290026.00	Gibco Amphotericin B contains 250 µg of amphotericin B (Fungizone) and 205 µg of sodium deoxycholate; prevents the

			contamination of cell cultures by yeast and multicellular fungi
FCS	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	10270106	Fetal Bovine Serum, qualified, E.U.-approved, South America origin
PBS, pH 7.4	Gibco/Thermo Fisher Scientific, Waltham, MA, USA	10010031.00	phosphate-buffered saline
Fura-2 (AM)	Teflabs, Austin, TX, USA	102	fluorescent cytosolic calcium indicators
Histamine dihydrochlorid	Sigma Aldrich, Vienna, Austria	H7250	2-(4-Imidazolyl)ethylamine dihydrochloride; IP3-generating agonist
Nw-Nitro-L-arginine	Sigma Aldrich, Vienna, Austria	N5501	N5-(Nitroamidino)-L-2,5-diaminopentanoic acid; L-NNA; inhibitor of nitric oxide synthase
NOC-7	Calbiochem/Merck, Darmstadt, Germany	487952	3-(2-Hydroxy-1-methyl-2-nitrosohydrazino)-N-methyl-1-propanamine; nitric oxide (NO) donor short half-life of NO release
Sodium nitroprusside dihydrate	Santa Cruz Biotechnology, Texas, USA	sc-203395A	sodium nitroferricyanide(III) dihydrate; nitric oxide releasing compound
30 mm Cover slips	Karl Hecht, Sondheim v. d. Rhön, Germany	41001130	glass cover slips, HECHT "Assistent", size 1, round, 30 mm, (VE: 100 pcs.)
Iron(II) booster solution	Next generation fluorescent imaging (NGFI), Graz, Austria	n.a.	Iron(II) containing physiological buffer for non toxic iron(II) loading of cells; http://www.ngfi.eu/product/ironii-booster-solution/
G-geNOp plasmid	Next generation fluorescent imaging (NGFI), Graz, Austria	n.a.	plasmid DNA encoding green NO sensitive probe (G-geNOp); http://www.ngfi.eu/product/g-genop/
G-geNOp AAV5	Next generation fluorescent imaging (NGFI), Graz, Austria	n.a.	adenovirus encoding green NO sensitive probe (G-geNOp); http://www.ngfi.eu/product-category/genops/viral-genops-vectors/g-genop-aav5/
G-geNOp sensor cell line	Next generation fluorescent imaging (NGFI), Graz, Austria	n.a.	human embryonic kidney cell line (HEK293) stably expressing green NO sensitive probe (G-geNOp); http://www.ngfi.eu/product-category/genops/g-genop-sensor-cell-line/
HEK293A cell line	Invitrogen/Thermo Fisher Scientific, Waltham, MA, USA	R70507	subclone of human embryonic kidney cell line (HEK293)
EA.hy926 cell line	American Type Culture Collection (ATCC), Wesel, Germany	CRL-2922	somatic cell hybrid clone of human umbilical vein cell line with a thioguanine-resistant clone of A549
TILL iMIC	Till Photonics, Graefling, Germany	n.a.	digital microscope
Polychrome V monochromator	Till Photonics, Graefling, Germany	n.a.	ultra fast switching
AVT Stingray F145B	Allied Vision Technologies, Stadtroda, Germany	n.a.	Versatile CCD camera with Sony ICX285 EXview HAD sensor, IEEE 1394b
alpha Plan Fluor 40	Zeiss, Göttingen, Germany	n.a.	40X objective
dichroic filters	Chroma Technology Corp, Rockingham, Vermont, USA	n.a.	GFP emitter 514/3 nm (515dcxr)
ValveBank8 Controller	AutoMate Scientific, Inc., Berkeley, California, USA	01-08	programmable perfusion system control unit

BVC control	Vacuubrand, Wertheim, Germany	727200	Chemistry diaphragm pump ME 1C; vacuum pump for perfusion system
ImageJ software	NIH Image		Java image processing program inspired by NIH Image. http://imagej.net/Welcome