

EDITORIAL

Table of contents

CELL PROLIFERATION

1. Cell Counting Kit
2. Real time visualization of the cell-cycles!

GENE SILENCING

shRNA Plasmid Gene Silencers
shRNA Lentiviral Particles
psiRNA™ System

SELECTIVE ANTIBIOTICS

ELECTROPORATION (Promotion)

ABOUT US

10 Years LabForce AG
Contact Persons
LabForce-Crew

Appointments

June 4-5, 2009

SGM-SSM Swiss Society for Microbiology
68th Annual Assembly
University of Lausanne Building Amphipôle

June 14-18, 2009

VIII European Symposium of **The Protein Society**
Kongresshaus, Zurich, Switzerland

June 16-17, 2009

APPLICA 2009
DIVISION of ANALYTICAL CHEMISTRY of the
Swiss Chemical Society
Hotel Arte, Olten, Schweiz

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CELL PROLIFERATION

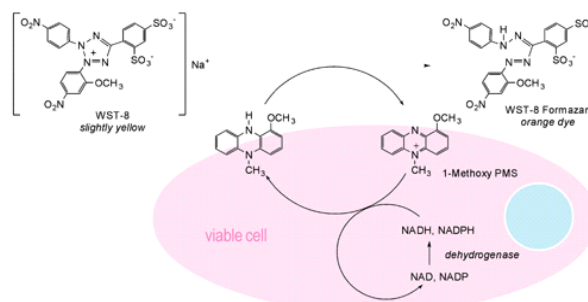
Cell Counting Kit

Application:	Cell Viability and Cytotoxicity detection
Features:	colorimetric microplate assay One solution type No washing required No radioisotopes or organic solvents required
Ordering information:	Product Code Unit*
	CK04-11 1'000 tests
	CK04-13 3'000 tests
	CK04-20 10'000 tests

* one test corresponds to one well on a 96-well plate. 500 tests (5ml) per vial for CK04-11 and CK04-13. 10000 tests (100 ml) per vial for CK04-20.

Product Description

Cell Counting Kit-8 (CCK-8) allows convenient assays using Dojindo's tetrazolium salt, WST-8 (2-(2-methoxy-4-nitrophenyl)-3-(4-nitrophenyl)-5-(2,4-disulfophenyl)-2H-tetrazolium, monosodium salt), which produces a water-soluble formazan dye upon bioreduction in the presence of an electron carrier, 1-Methoxy PMS (Fig. 1). CCK-8 solution is added directly to the cells; no pre-mixing of components is required. CCK-8 is a sensitive non-radioactive colorimetric assay for determining the number of viable cells in cell proliferation and cytotoxicity assays. WST-8 is bioreduced by cellular dehydrogenases to an orange formazan product that is soluble in tissue culture medium. The amount of formazan produced is directly proportional to the number of living cells. The detection sensitivity of cell proliferation assays using WST-8 is higher than assays using the other tetrazolium salts such as MTT, XTT, MTS or WST-1. Since the CCK-8 solution is very stable and has little cytotoxicity, a longer incubation, such as 24 to 48 hours, is possible.



Real time visualization of the cell-cycles!



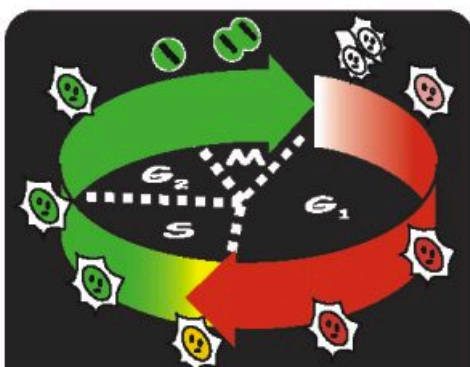
Fluorescent Proteins



Real time visualization of the cell cycle

FUCCI

(Fluorescent Ubiquitination-based Cell Cycle Indicator)



Visualizing the cell cycle: Schematic representation of the fluorescence observed in Fucci-transfected cells over the cell cycle phases. An orange fluorescent protein marks nuclei in G₁ (shown in red), while a green fluorescent protein marks nuclei in S, G₂ and M in green.

- Used for imaging the spatio-temporal patterns of cell cycle dynamics
- FACS - Sort your cells by cell cycle phase
- In Vivo analysis
- Areas of Research: Cell Growth, Differentiation, Development, Regeneration and Carcinogenesis

NEW



HeLa cells stably expressing Fucci-G₁ Orange and Fucci-S/G₂/M Green. Fucci effectively labels individual nuclei in G₁ phase orange and those in S/G₂/M phase green.



Typical fluorescence images in HeLa cells expressing Fucci-G₁ Orange and Fucci-S/G₂/M Green and immunofluorescence for incorporated BrdU at G₁, G₂/S, S, G₂, and M phases.

Images courtesy of:
 Dr.Aanko Sakano-Sawano and Dr.Atsushi Miyawaki
 Laboratory for Cell Function and Dynamics, Advanced Technology Development Group, Brain Science Institute, RIKEN; Life Function Dynamics, ERATO, JST
 These images were obtained using the stable cell line in Reference (Sakano-Sawano, A., et al., Cell 132, 487-498 (2008)), obtained with modification of Amalgam products. For details please refer to the Reference given.
 Data obtained using the stable cell lines in reference (Sakano-Sawano, A., et al., Cell 132, 487-498 (2008)), obtained with modification of Amalgam products. For details, please refer to the reference given.

MBL International Corporation

Fucci

Fucci (Fluorescent Ubiquitination-based Cell Cycle Indicator) is a set of fluorescent probes which enable the visualization of cell cycle progression in living cells. Fucci takes advantage of the fact that the replication licensing factors Cdt1 and Geminin are only present during specific phases of the cell cycle. A fusion protein of a fragment of Cdt1 (amino acids 30-120) with the fluorescent protein monomeric Kusabira-Orange 2 (mKO2) serves as an indicator of G₁ phase, while a fusion protein of a fragment of Geminin (amino acids 1-120) with the fluorescent protein monomeric Azami-Green 1 (mAG1) visualizes S, G₂ and M phase. The cell cycle indicator takes advantage of the highly selective, rapid degradation of the replication licensing factors, mediated by the ubiquitin-proteasome system.

By visualizing the cell cycle, Fucci is a powerful tool to investigate any process that has to do with cell growth and differentiation, such as the development and regeneration of organs as well as carcinogenesis.

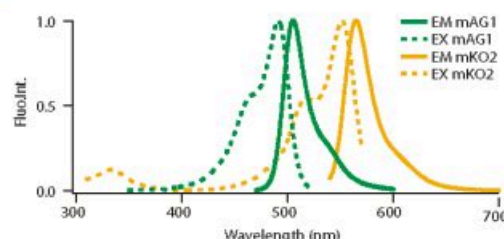
Terms:

- Cdt1:** Cdc 10 dependent transcript 1 is a conserved replication factor required in licensing the chromosome for a single round of DNA synthesis. Abundantly expressed throughout the cell cycle, Cdt1 is ubiquitinated by the ubiquitin ligase complex SCF^{Skp2} during S and G₂ phase and degraded by the proteasome.
- Geminin:** Geminin inhibits the licensing activity of Cdt1. Geminin interferes with the binding of licensing factors to the origin of replication once a chromosome has started to replicate during S phase. During M and G₁ phase, geminin is ubiquitinated by the ubiquitin ligase complex APC^{Cdh1} and degraded by the proteasome.

Fluorescence characteristics

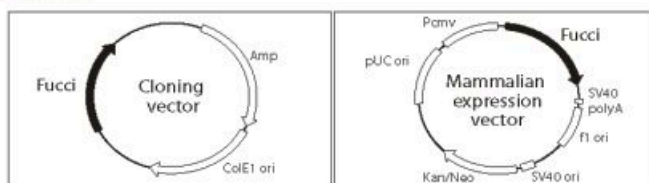
	Excitation/ Emission Maxima	Excitation Coefficient (M ⁻¹ cm ⁻¹)	Fluorescence Quantum Yield	pH sensitivity
mAG1	492/505	55,500 (492 nm)	0.74	pKa=5.8
mKO2	551/565	63,800 (551 nm)	0.62	pKa=5.5

Spectra of Fucci probes for Cell Cycle Analysis



Excitation (dotted line) and emission (solid line) spectra of mAG, mKO2

Vector



pFucci-G₁ Orange (AM-V9001)

pFucci-S/G₂/M Green (AM-V9014)

pFucci-G₁ Orange (AM-V9003)

pFucci-S/G₂/M Green (AM-V9016)

References:

- 1) Sakaue-Sawano, A., et al., Cell 132, 487-498 (2008)
- 2) Nakayama, K. I., et al., Nat. Rev. Cancer 6, 369-381 (2006)
- 3) Blow, J. J., and Dutta, A., Nat. Rev. Mol. Cell Biol. 6, 476-486 (2005)
- 4) Nishitani, H., et al., J. Biol. Chem. 279, 30807-30816 (2004)
- 5) Karasawa, S., et al., J. Biol. Chem. 278, 34167-34171 (2003)
- 6) Nishitani, H., et al., Nature 404, 625-628 (2000)

Code No.	Description	Size
AM-V9001	pFucci-G ₁ Orange (cloning vector)	20 µg
AM-V9003	pFucci-G ₁ Orange (expression vector)	20 µg
AM-V9014	pFucci-S/G ₂ /M Green (cloning vector)	20 µg
AM-V9016	pFucci-S/G ₂ /M Green (expression vector)	20 µg
AM-VS0601	Fucci Set (AM-V9001 + AM-V9014)	20 µg + 20 µg
AM-VS0602	Fucci Set (AM-V9003 + AM-V9016)	20 µg + 20 µg
AM-VS0603	Fucci Set (AM-V9001 + AM-V9016)	20 µg + 20 µg
AM-VS0604	Fucci Set (AM-V9003 + AM-V9014)	20 µg + 20 µg

This product is licensed from RIKEN and Tokyo Metropolitan Institute of Medical Science.

CoralHue proteins were co-developed with the Laboratory for Cell Function and Dynamics, the Advanced Technology Development Center, the Brain Science Institute for Physical and Chemical Research (RIKEN) (lab head Dr. Atsushi Miyawaki).

For more information, call us or go to www.mblintl.com

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GENE SILENCING

shRNA Plasmid Gene Silencers

shRNA Plasmid description:

- shRNA refers to small hairpin or short hairpin RNA
- Plasmids encoding shRNA enter the cell via lipid-based transfection
- shRNA plasmids are capable of transient or stable inhibition of target gene expression
- shRNA Plasmids are provided as a pool of three to five lentiviral vector plasmids which each encode a target specific 19-25 nt shRNA with a 6 bp loop
- 20 µg, up to 20 transfections
- shRNA transcription is under the control of the H1 promoter
- provided as transfection-ready purified plasmid DNA
- After transfection, cells stably expressing shRNA can be selected by puromycin treatment

Support Products for shRNA Plasmid Gene Silencers:

- suitable control antibodies are available
- RT-PCR Primers are available
- shRNA Plasmid Transfection Reagent, sc-108061
- shRNA Plasmid Transfection Medium, sc-108062
- Control shRNA Plasmid-A, sc-108060
- Control shRNA Plasmid-B, sc-108065
- Control shRNA Plasmid-C, sc-108066

Confirm shRNA Plasmid Gene Silencer transfection efficiency with copGFP Control Plasmid: sc-108083

shRNA Lentiviral Particles

shRNA Lentiviral Particle description:

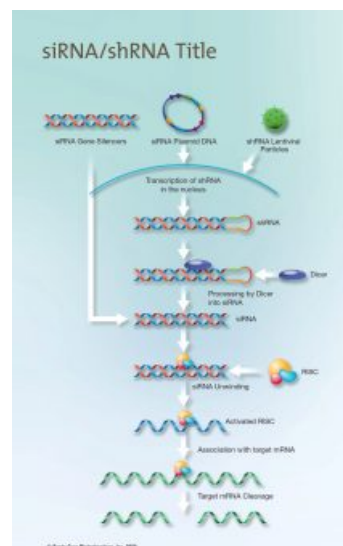
- shRNA refers to small hairpin or short hairpin RNA
- Lentiviral Particles deliver a shRNA encoding plasmid to target cell
- Useful for either transient or stable knock-down of a target gene
- Lentiviral Particles are provided as transduction-ready viruses for targeted gene silencing in mammalian cells (human or mouse)
- 200 µl viral stock containing 10⁶ infectious lentiviral transducing particles per ml, sufficient for 10-20 transductions
- The Lentiviral Particles generally contain three to five expression constructs, each construct encoding a target specific 19-25 nt shRNA with a 6 bp loop
- After transduction, cells stably expressing shRNA can be selected by puromycin treatment
- copGFP Control Lentiviral Particles allow confirmation of the transduction efficiency of the Lentiviral Particles in a target cell population by expression of GFP detectable by either flow cytometry or fluorescence microscopy.
- The benefits of using shRNA Lentiviral Particles include avoiding harsh transfection techniques and the ability to introduce shRNA to any cell type

- Biosafety information - Lentiviral Particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into the genomic DNA of target cells.

Support Products for shRNA Lentiviral Particle Gene Silencers:

- suitable control antibodies are available
- RT-PCR Primers are available
- Control shRNA Lentiviral Particles: sc-108080
- copGFP Control Lentiviral Particles: sc-108084
- Puromycin dihydrochloride: sc-108071

How do they work?



The Power to Question

shRNA Plasmid Gene Silencers

InvivoGen provides a plasmid-based system developed to knockdown efficiently the expression of a wide variety of mammalian genes. This system represents a simple and affordable method to generate short hairpin RNAs (shRNAs) by eliminating the need to synthesize RNA oligonucleotides. The psiRNA System is designed to assist you in all the steps necessary to obtain efficient silencing of a gene of interest from the selection of an effective siRNA/shRNA to its prevalidation.

Cloning of siRNA/shRNA Insert

psiRNA Plasmids

InvivoGen offers the **psiRNA™ plasmids**, a family of cloning vectors available with two different RNA polymerase III promoters, human 7SK or H1 promoters, and a choice of selection markers. They exploit the white/blue selection system to facilitate the screening of recombinant bacterial clones. Furthermore, they feature a GFP: Zeo fusion gene that allows to evaluate transfection efficiency and normalize silencing experiments.

Choose your selectable marker:

- Blasticidin
- Hygromycin
- Kanamycin / G418
- Zeocin
- GFP: Zeo



InvivoGen also offers **psiRNA-DUO** that allows to generate two shRNAs from the same plasmid for the silencing of either a single target gene (with/without polymorphisms) or two different target genes. psiRNA-DUO contains special features designed to make the cloning of the shRNA inserts and selection of recombinant clones simple and rapid.

Description:

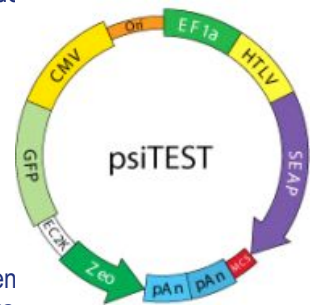
The major features of the psiRNA-DUO plasmid are its two RNA PolIII cassettes and the GFP-Zeo fusion gene.



psiRNA™ plasmids are provided in a kit that contains, in addition to the cloning vector, one or two control vectors, and a set of tools designed to facilitate the cloning of shRNAs in psiRNA™ plasmids.

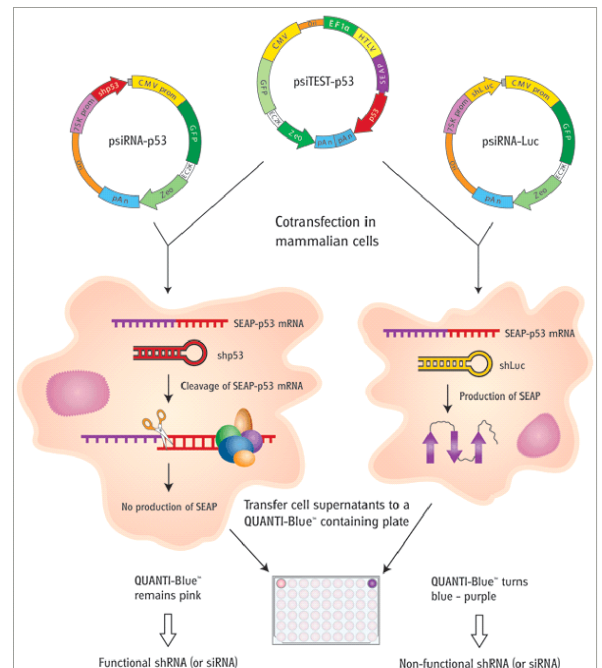
Prevalidation of siRNA/shRNA: psiTEST System

The psiTEST System was developed to provide a rapid, simple, and convenient method to screen for functional siRNA and shRNA sequences. The silencing efficiency of a given siRNA or shRNA is evaluated by monitoring the reduction of expression of a chimeric gene consisting of a secreted alkaline phosphatase (SEAP) reporter gene transcriptionally fused to the target gene.



Transfection of effective siRNAs or shRNAs triggers the RNAi process resulting in the degradation of the chimeric mRNA and therefore the absence of SEAP activity.

Screening of functional siRNAs or shRNAs with the psiTEST system



SELECTIVE ANTIBIOTICS

High Quality Products

InvivoGen is a leader in the production of selective antibiotics. They manufacture the largest choice of antibiotics for selection. Their state-of-the-art facilities allow them to produce large quantities of high quality antibiotics with purity levels exceeding 95%. As they manufacture the products, they are able to offer the best prices on the market. All their products are provided as cell-culture tested, sterile solutions that are ready-to-use.

High Quality

As all the products are manufactured by InvivoGen, their antibiotics meet rigorous standards and have passed stringent quality control, which includes verification of potency, purity and stability using microbiological and chromatographic methods. This leads to consistently high quality.

Purity and Stability

All their antibiotics are ultra pure: more than 95% purity for most of them. Their excellent stability allows for exceptional selection and reproducible results.

Ready-to-use Cell Culture Tested Solutions

No weighing needed - their antibiotics are available in solution filtered to sterility for customer convenience and validated for cell culture usage.

An Excellent Choice of Antibiotics for Selection in Both Mammalian cells and E. coli

Matches up to the antibiotic resistance genes carried by InvivoGen plasmids, built for selection in both mammalian and bacteria cells.

Antibiotic Resistance Genes

All InvivoGen's antibiotics are paired with resistance genes that are active both in E. coli and mammalian cells. They are available in their wild-type form in many plasmids provided by InvivoGen, and also as new synthetic alleles devoid of CpGs in pMOD and pCpG plasmids.

Also Available in Fast-Media©

All their selective antibiotics are available in ready-made microwaveable E. coli media Fast-Media©. The antibiotics are at the appropriate concentration in pre-mixed LB media for selection of E. coli transformants.

Code	Product	Quantity
ant-bgl-1	Biotin-GA	1 mg
ant-bgl-5	Biotin-GA	5 mg
ant-bl-10p	Blasticidin	1 g powder
ant-bl-1	Blasticidin	100 mg
ant-bl-5	Blasticidin	500 mg
ant-bl-5b	Blasticidin	500 mg bottle
ant-fn-1	Fungin™	75 mg
ant-fn-2	Fungin™	200 mg
ant-gn-1	G418	1 g
ant-gn-5	G418	5 g
ant-gl-1	Geldanamycin	1 mg
ant-gl-5	Geldanamycin	5 mg
ant-hg-1	HygroGold™	1 g
ant-hg-5	HygroGold™	10 g
ant-hg-10p	HygroGold™	5 g
ant-hm-1	Hygromycin B	1 g
ant-hm-5	Hygromycin B	5 g
ant-nr-1	Normocin™	500 mg
ant-nr-2	Normocin™	1 g
ant-mpp	Plasmocin™ prophylactic	25 mg
ant-mpt	Plasmocin™ treatment	50 mg
ant-pc	Plasmocure™	100 mg
ant-pm-1	Primocin™	500 mg
ant-pm-2	Primocin™	1 g
ant-pr-1	Puromycin	100 mg
ant-pr-5	Puromycin	500 mg
ant-zn-1	Zeocin™	1 g
ant-zn-1p	Zeocin™	1 g powder
ant-zn-5	Zeocin™	5 g
ant-zn-5b	Zeocin™	5 g
ant-zn-5p	Zeocin™	5 g powder

ELECTROPORATION (PROMOTION)

Ingenio™ Solution High Efficiency Electroporation

The Ingenio™ Solution outperforms other electroporation reagents including PBS, serum-free media and other commercially available products. Plus it is compatible with ALL electroporators.

30% introductory discount

Amaxa Comparison Comparison to Other Solutions

- **High Efficiency Electroporation of Hard to Transfect Cells** - Conduct research in biologically relevant cells
- **Compatible with All Electroporation Devices** - Use your existing system; no need to purchase additional specialized equipment
- **Save Money** - Reduce research costs while maximizing results
- **High Cell Viability** - Minimize the risk of introducing experimental biases due to toxicity induced cellular changes

Mirus Bio has developed the Ingenio Electroporation Solution to facilitate efficient and reliable delivery of nucleic acids to eukaryotic cells traditionally resistant to chemical transfection. Ingenio is a broad spectrum solution that supports high efficiency electroporation with minimal toxicity. It replaces standard electroporation solutions including phosphate buffered saline and serum-free media. Ingenio is compatible with multiple instruments and facilitates a wide range of applications requiring nucleic acid delivery to cells. The Ingenio Solution is available alone and as part of a kit with cuvettes and cell droppers.

Data

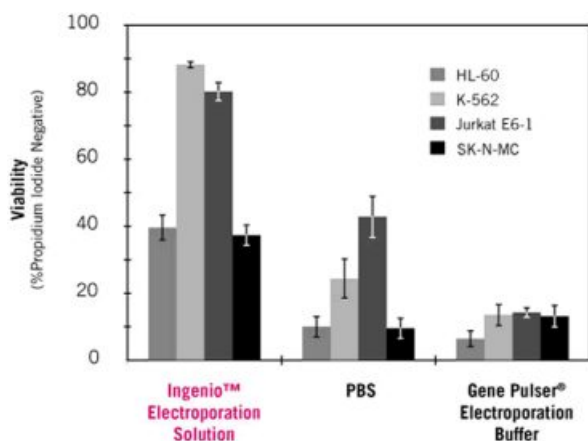


Figure 1. Ingenio Outperforms Other Electroporation Solutions.

Cells were electroporated in parallel with an EGFP reporter vector using either Ingenio™ Electroporation Solution, PBS or the Gene Pulser® Electroporation Buffer (Bio-Rad) on the GenePulser Xcell™ Eukaryotic System. EGFP expressing cells were identified 24 hours post-electroporation by flow cytometry and presented as a percentage of the live cell population. Experiments were performed in triplicate on three separate days and the data

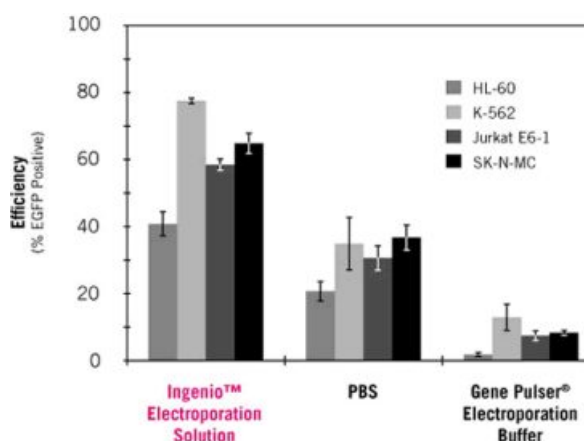


Figure 2. High Cell Viability with Ingenio.

was electroporated into cells using either Ingenio™ Electroporation Solution, PBS or Gene Pulser Electroporation Buffer (Bio-Rad) and the GenePulser Xcell™ Eukaryotic System. Twenty-four hours post-electroporation, cells were assayed for viability by propidium iodide staining and flow cytometry analysis. Experiments were performed in triplicate on three separate days and the data averaged.

|| ABOUT US

10 Years LabForce AG

Company profile

LabForce AG was founded in January 1999. We are a dynamic, highly motivated team specialising in the distribution of reagents and laboratory equipment for cell and molecular biology as well as medical diagnostics (e.g., hematology, clinical chemistry)

Our philosophy

Customer orientation, quality, flexibility and excellent service are our main concern

Strategy

We are specialised in research and medical diagnostics and offer you a well-rounded product range with a competent technical service.

More Informations

More informations about our promotions, manufacturers and all our products including a webshop you find online at www.labforce.ch.

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	Dr. Christiane Klas	
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	Luzia Hänggi	12

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