

New Products

Reverse Transcription



Product: Tool for the enhanced reverse transcription and amplification of messenger RNA.

Name & Manufacturer: Random Hexamers from Thermo Fisher Scientific.

Technology: Random Hexamers are used as primers for mRNA with or without a poly-A tail. These truly random oligo deoxyribonucleotides increase sensitivity and yield of reverse transcription reactions as well as generating a more complete pool of cDNA. Random hexamers consist of six bases in a randomly generated sequence, to allow for annealing on all species of RNA. Thermo Scientific Random Hexamers are available at a concentration of 400 ng/ml and in aliquots of 40ml and 100ml. They are also available in Thermo Scientific Verso RT and QRT-PCR kits to offer a complete reverse transcription solution.

Advantages: Random hexamers are ideal when working with short fragments, such as in QRT-PCR, by increasing the number of binding sites on the RNA, allowing for an increase in reaction sensitivity and yield of cDNA.

More Information: www.thermo.com/qpcr

Delivery System for dsRNA



Product: Peptide-based double-stranded RNA (dsRNA) transduction delivery system.

Name & Distributor: Transductin from Integrated DNA Technologies.

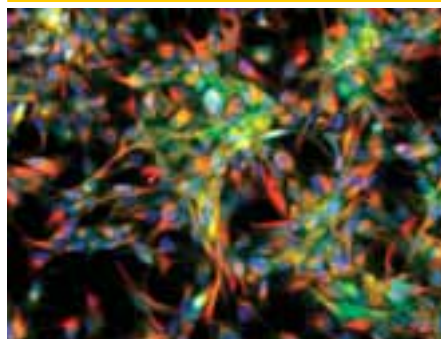
Technology: Transductin is intended for in vitro testing and high-throughput screening projects. Transductin complexes with dsRNAs, such as IDT's Dicer-substrate siRNAs, and delivers them across cell membranes via macropinocytosis. Developed by Dr. Steven Dowdy's lab at the UCSD School of Medicine, Transductin is a small

fusion protein comprised of multiple Peptide Transduction Domains connected to a Double-Stranded RNA Binding Domain (PTD-DRBD). The DRBD domain binds the RNA duplex and serves to keep the positively charged PTD away from the negatively charged RNA, maximizing potency of the peptide transduction domain.

Advantages: The mechanism of Transductin minimizes the risk of having the dsRNA trigger an innate immune response and has virtually no toxicity, which are common drawbacks when using cationic lipid transfection. As a result Transductin enables delivery of dsRNAs (such as siRNAs) to almost all cell types, including those that are traditionally difficult to transfect such as JAWSII and PC12.

More information: www.idtdna.com

Florescing Stem Cell Lines



Product: Fluorescing Stem Cell Lines for non-invasive analysis of differentiation.

Name & Manufacturer: MilliTrace stem cell lines from Millipore.

Technology: The MilliTrace stem cell lines express green fluorescent protein (GFP) under the control of various embryonic and neural stem cell markers. The cell lines feature GFP reporters under the control of nanog (mouse embryonic stem cells) or nestin and Sox-2 (human neural stem cells) transcription factors. The loss of these stem cell markers during differentiation causes down-regulation of the GFP, making it easy to spot cells that have not differentiated.

Following transfection with humanized mulleri GFP, every MilliTrace cell line is validated for high levels of GFP expression, stem cell marker expression, and multipotency. The cells are also supplied with an optimized expansion medium to help maintain expression of the transgene.

Advantages: FACS analyses indicate that over 90% of the cells express high levels of GFP even after 10 passages when cultured at normal proliferation conditions. Due to their brilliant green glow, these cells offer a quick, non-invasive way to monitor the behavior of specific stem cell

populations as they proliferate, migrate, and differentiate into various lineages. As a result, MilliTrace cells can improve reproducibility and data quality for a variety of applications, including individual assays and high-throughput screens.

More Information:

www.millipore.com/stemcells

Automated Cell-Based Screening



Product: Automated platform for medium and high throughput cell-based screening applications.

Name & Manufacturer: BioCel System from Agilent Automation Solutions.

Technology: The BioCel System is a compact high-performance automated platform that combines fast robotics with VWorks Automation Control software to deliver fully-integrated, customizable processing for medium and high throughput cell-based screening. A central radial robotic arm brings speed and throughput to a system that is both affordable and expandable. Offered in a range of sizes, the BioCel System enables expandability by combining multiple units with plug-and-play simplicity. The System is capable of automating simple single-processes to complex multi-process applications. In fact, the BioCel System is suited for automating virtually any cell-based screening operation including ELISAs, FLIPRs, FACS, stem cell assays, cell line maintenance and more.

Advantages: The BioCel System's event-driven scheduler supports multiple plate formats and labware, multiple protocols, and linear and parallel process flows, while the software architecture accommodates expansion of the system to include additional modules and access to new third party devices.

For more Information about automating cell-based screening using the BioCel System register for free CD at <http://www.chem.agilent.com/en-US/products/instruments/automation/systems/biocel1800/pages/biocelintro.aspx>