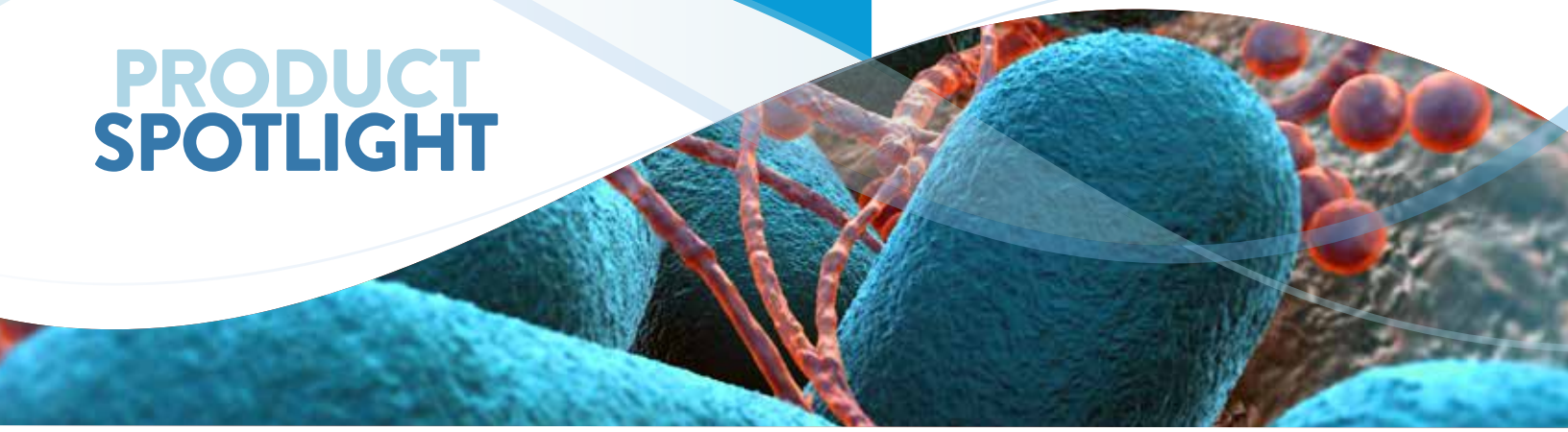
ATCC

# PRODUCT SPOTLIGHT

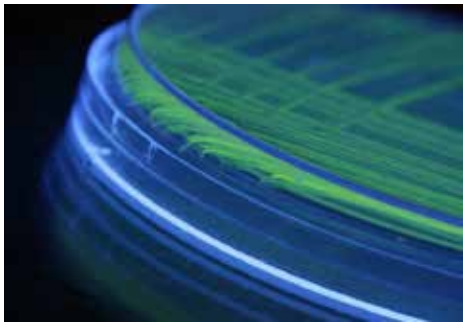


# REPORTER-LABELED CELLS

## WHAT TYPES OF REPORTER SYSTEMS ARE AVAILABLE?

Reporter systems are invaluable research tools for studying gene expression and for screening cell lines and microbial strains. Some of the most commonly used reporter systems are those that induce a visually identifiable phenotype such as the emission of fluorescent or luminescent light or the production of a pigmented product.

- Fluorescent reporters – Exhibits a fluorescent signal upon exposure to specific wavelengths of light
- Luminescent reporters – Uses a luciferase enzyme to catalyze a reaction with its substrate, luciferin, to produce visible light
- Chromogenic reporters – Employs an enzyme label that reacts with a substrate to produce a pigmented product

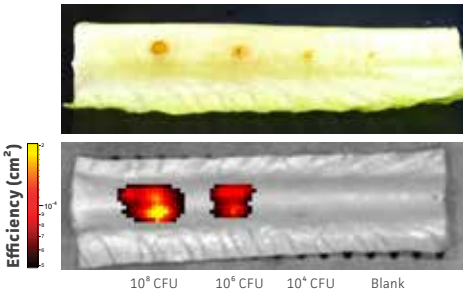


GFP-labeled *Pseudomonas aeruginosa*

## WHAT ARE THE ADVANTAGES OF REPORTER-LABELED CULTURES?

Reporter systems have a diverse array of applications in the basic and applied sciences. In biological research, reporter systems provide a readily measurable and distinguishable phenotype that can be applied in the analysis of:

- Quantification
- Detection
- Host-pathogen interactions
- Drug discovery
- Compound screening
- Toxicity studies
- In vivo imaging
- Quality control
- Pathway research
- Differentiation studies




*In vivo* detection of *Pseudomonas aeruginosa*-GFP in the mid-rib of *Lactuca sativa* L. var. *longifolia* after 48 h using an IVIS® Spectrum detection system (PerkinElmer)

## WHAT IS THE VALUE OF ATCC REPORTER-LABELED CULTURES?

Implementing a reporter system can be challenging and time consuming with regard to cloning procedures, transformation and transfection protocols, microbial and cellular growth requirements, and construct validation. To save you both the time and expense associated with the development of reporter-labeled cells, ATCC has successfully incorporated expression vectors harboring fluorescence, luciferase, or β-galactosidase reporter genes into a variety of clinically relevant microbial species and cell lines. These products have been thoroughly examined for:

- Reporter expression
- Vector stability
- Compatibility with detection technologies
- Growth rate
- Morphology
- Fitness trends

**TO BROWSE OUR COLLECTION OF REPORTER-LABELED CULTURES, VISIT US ONLINE AT WWW.ATCC.ORG/REPORTERS.**

**Table 1: B-galactosidase Reporter Cells**

| ATCC® No.† | Organism | Designation | Source of isolation |
|---|---|---|---|
| CRL-2199™ | *Rattus norvegicus* | C6/LacZ | Brain |
| CRL-2200™ | *Rattus norvegicus* | 9L/lacZ | Brain |
| CRL-2303™ | *Rattus norvegicus* | C6/lacZ7 | Brain |

**Table 2: Fluorescent Reporter Cells**

| ATCC® No.† | Organism | Designation | Source of isolation |
|---|---|---|---|
| **ATCC Cell Lines** | | | |
| ACS-5005™ | *Homo sapiens* | Neural Progenitor Cells Derived from XCL-1 DCXp-GFP | CD34+ cord blood |
| CCL-243-GFP™ | *Homo sapiens* | K-562-GFP | Bone marrow |
| CRL-2794™ | *Homo sapiens* | GFPu-1 | Kidney |
| CRL-2915™ | *Homo sapiens* | M4A4 GFP | |
| CRL-2916™ | *Homo sapiens* | M4A4 LM3-2 GFP | |
| CRL-2917™ | *Homo sapiens* | M4A4 LM3-4 CL16 GFP | |
| CRL-2919™ | *Homo sapiens* | NM2C5 GFP | |
| CRL-3275™ | *Homo sapiens* | Tau RD P301S FRET Biosensor | Embryonic kidney |
| CRL-4045™ | *Homo sapiens* | TIME-GFP | Foreskin |
| CRL-4054™ | *Homo sapiens* | TeloHAEC-GFP | Aorta |
| CRL-2583™ | *Mus musculus* | C166-GFP | Yolk sac |
| CRL-2587™ | *Mus musculus* | EOMA-GFP | |
| SCRC-1037™ | *Mus musculus* | G-Olig2 | Inner cell mass |
| **ATCC Microorganisms** | | | |
| 25922GFP™ | *Escherichia coli* | | Laboratory engineered |
| 35150GFP™* | *Escherichia coli* | EDL 931 | Laboratory engineered |
| 51657GFP™* | *Escherichia coli* | A | Laboratory engineered |
| BAA-2196GFP™* | *Escherichia coli* | 2003-3014 | Laboratory engineered |
| BAA-2209GFP™* | *Escherichia coli* | 2001-3357 | Laboratory engineered |
| BAA-2215GFP™* | *Escherichia coli* | 2006-3008 | Laboratory engineered |
| BAA-2219GFP™* | *Escherichia coli* | 2002-3211 | Laboratory engineered |
| PRA-417™ | *Leishmania aethiopica* | MHOM/ET/72/L100 GFP | Transfected with GFP. Strain MHOM/ET/72/L100 was originally isolated from a human, Ethiopia, 1972. |
| PRA-419™ | *Leishmania major* | MHOM/SU/73/5ASKH GFP | Transfected with GFP. Strain MHOM/SU/73/5ASKH was originally isolated from a human, Askhabad, Turkmenskaya, former Soviet Union, 1973. |
| PRA-416™ | *Leishmania mexicana* | MNYC/BZ/62/M379 GFP | Transfected with GFP. Strain MNYC/BZ/62/M379 was originally isolated from a Sumichrast's vesper rat, Cayo District, Belize, 1962. |
| PRA-418™ | *Leishmania tropica* | MHOM/SU/58/OD GFP | Transfected with GFP. Strain MHOM/SU/58/OD was originally isolated from a human, Turkestan, former Soviet Union, 1958. |
| 10145GFP™ | *Pseudomonas aeruginosa* | | |
| 15692GFP™ | *Pseudomonas aeruginosa* | | |
| 14028GFP™ | *Salmonella enterica* subsp. *enterica* serovar Typhimurium | | |
| 12022GFP™ | *Shigella flexneri* | | |
| 50832GFP™ | *Trypanosoma cruzi* | Y GFP CL1 | ATCC® 50832™ transfected with GFP |

**Table 3: Luminescent Reporter Cells**

| ATCC® No.† | Organism | Designation | Source of isolation |
|---|---|---|---|
| **ATCC Cell Lines** | | | |
| ACS-5006™ | *Homo sapiens* | Neural Progenitor Cells Derived from XCL-1 GFAPp-Nanoluc-Halotag | CD34+ cord blood |
| ACS-5007™ | *Homo sapiens* | Neuronal Progenitor Cells Derived from XCL-1 MAP2p-Nanoluc-Halotag | CD34+ cord blood |
| CRL-11997™ | *Homo sapiens* | HEP G2/2.2.1 | Liver |
| CRL-2713™ | *Homo sapiens* | MDA-kb2 | Mammary gland/breast |
| CRL-2865™ | *Homo sapiens* | T47D-KBluc | Mammary gland; breast/duct; derived from metastatic site: pleural effusion |
| CRL-3249™ | *Homo sapiens* | HEK 293 STF | Embryonic kidney |
| CRL-2278™ | *Mus musculus* | RAW 264.7 gamma NO(-) | |
| CRL-2829™ | *Oncorhynchus mykiss* | RTG-P1 | Mixed; testis, ovary |
| **ATCC Microorganisms** | | | |
| BAA-2580-PACK™* | *Escherichia coli* | | |
| BAA-2581-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2582-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2583-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2584-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2585-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2586-PACK™* | *Escherichia coli* | | Laboratory engineered |
| BAA-2587-PACK™* | *Escherichia coli* | | Laboratory engineered |

†Several of these materials may have a restriction regarding their use. Please refer to the individual product entry for more information.

*Distributed only within the United States.

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