

## Technologies Available for Licensing

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### Novel Rapid Screening for Respiratory Syncytial Virus

The invention uses the reverse genetics system developed for respiratory syncytial virus (RSV) to generate recombinant RSV that express the green fluorescent protein (rgRSV), the red fluorescent protein (rrRSV), or both (rrgRSV). These viruses are very useful for following infection and spread in real time. The fluorescent marker proteins allow rapid quantification of the extent of virus infection in cultured cells.

### Areas of Application

These fluorescent protein-producing recombinant RSVs can be very useful in rapid screening for compounds active against RSV.

### Advantages

- Quantification of virus replication in each well of a 96-well plate in less than a minute by a fluorescence plate reader;
- Elimination of processing time and technician burnout;
- Detection of potentially potent anti-viral medication. Inhibitory compounds that prevent virus infection or replication will prevent the production of the fluorescent proteins, since these proteins are generated in a manner identical to those from the viral genes. The rrRSV has the advantage of particularly low background plastic fluorescence at the detection wavelength. The rrgRSV has the advantage that it can be read at two different wavelengths. Disparities in the results from these two wavelengths would indicate that the test compound is itself autofluorescent at one of the wavelengths. Since many small molecules are fluorescent, identifying this problem in the initial screening step can avoid the loss of potentially potent antivirals.

### The Technology

RSV is the most important respiratory pathogen in infants, and as such is a major target for the development of antiviral agents. Screening compounds for activity against RSV has traditionally relied on virus-induced cytopathology as readout. The detection of cytopathology in a 96-well format requires microscopic examination of each test well and plaque counting. In addition to the tediousness of this readout, multiple steps are required for staining prior to reading.

### Patent

The recombinant RSVs are not themselves patented, but the technology to produce them is patented. The technology is available for non-exclusive licensing.

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