Publications utilizing the IN Cell Analyzer 2000, IN Cell Analyzer 2200, and IN Cell Analyzer 6000 have increased eight fold in the past five years. Here, a selection of 79 papers from the last two years is featured and categorized according to application. Trending applications include: 3-D biology, regenerative medicine, neurobiology, drug discovery, and nanotechnology.*

### Alzheimer’s disease


### Apoptosis


*Many publications could have been placed into several categories, but are only listed once. Please look through related categories for completeness.

### Amyotrophic lateral sclerosis


### Science: Amyotrophic lateral sclerosis (ALS) is a debilitating disease of the body’s motor neurons, yet we lack understanding of the cellular and molecular mechanisms that trigger its onset. To study an ALS model, an apoptosis assay in induced pluripotent stem cell (iPSC) derived motor neurons is shown. HP9-positive motor neurons are shown in red, cleaved-CASPASE3 is shown in green to assay apoptosis, βII-TUBULIN marks immature neurons in pink, and nuclei were stained with Hoechst in blue. This paper advances tools for studying ALS by developing an assay to derive motor neurons from patients.

### Technology: Over 10,000 cells per well were imaged on an IN Cell Analyzer 6000 by acquiring 25 fields of view per well with a 20x objective. IN Cell Developer segmented nuclei and neurons were identified by positive HP9 staining. Then, the cell ratio of cleaved-CASPASE3-positive cells to βII-positive neurons or HB9-positive motor neurons was determined.

### Title: Establishment of in vitro FUS-associated familial amyotrophic lateral sclerosis model using human induced pluripotent stem cells

### Authors: N. Ichiyangi, K. Fujimori, M. Yano, C Ishihara-Fujisaki, T Sone, T Akiyama, Y Okada, W Akamatsu, T Matsumoto, M Ishikawa, Y Nishimoto, Y Ishihara, T Sakamura, T. Yamamoto, H Tsuji, N Suzuki, H Watarai, M Aoki, H. Okano

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**Autophagy**

**Cancer**

**Cardiomyocytes**
Cell therapy

DNA damage

Drug discovery

Heart disease

3-D biology

Kidney disease
Myotonic dystrophy


Nanotechnology


Science: RNA FISH/IF experiment on mouse quadriceps muscle sections showing the effect of phenylbutazone on the association of MBNL1, a splicing regulator, with nuclear foci. CAG repeats are shown in red, MBNL1 is shown in green, and the nuclei are stained blue with DAPI. This study advances our understanding of a mouse model of myotonic dystrophy and shows the promise of phenylbutazone as a therapeutic agent.

Technology: The IN Cell Analyzer 6000 was used to image 6µm sections of the quadriceps muscle from six mice. Multiple randomly selected fields of view were collected to quantify the association of MBNL1 with nuclear foci.

Title: Phenylbutazone induces expression of MBNL1 and suppresses formation of MBNL1-CUG RNA foci in a mouse model of myotonic dystrophy

Authors: G. Chen, A. Masuda, H Konishi, B. Ohkawara, M. Ito, M. Kinoshita, H. Kiyama, T. Matsuda, K. Ohno

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Neurobiology


Parkinson’s disease


Prions


Regenerative medicine


**Toxicology**


**Tropical disease**


**Virology**


*Science:* Researchers identify a novel antibody that shows promise in treating ebolavirus of all major species. Here, in a focus forming assay, they examine the effectiveness of their antibody in neutralizing a variety of ebolaviruses by incubating the purified antibody with infectious ebolaviruses. This study advances treatment of Ebola.

*Technology:* IN Cell Analyzer 2000 was used to count GFP-positive cells 20 hours after inoculation with the viruses in Vero E6 cells in order to calculate the percentage of infectivity.

*Title:* Discovery of an antibody for pan-ebolavirus therapy


*Source:* http://www.nature.com/articles/srep20514/

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