

## Recent patent applications in drug discovery automation

Patent #	Subject	Assignee(s)	Inventor(s)	Priority application date	Publication date
JP 2007209256	An incubator for culturing samples (e.g., cells) with an automatic conveyance unit that moves a culture container and positions the sample in it along the optical axis of the illuminating system during observation of the sample by a microscopic unit; useful in drug discovery and regenerative medicine.	Nikon (Tokyo)	Nakamura K, Uozumi T	2/9/2006	8/23/2007
JP 2007161453	A rack for carrying out storage management of a drug sample in a constant-temperature, constant-humidity, refrigerated environment. The user can automatically calculate the positional information on all the storage racks by using one hand, without requiring a new position detector, and acquire the positional information about the X-axial direction at a higher precision; useful in drug-discovery research environments.	Tsubakimoto Chain Co. (Osaka, Japan)	Oshimo J, Shibata N	12/15/2005	6/28/2007
JP 2007046956	A dispensing apparatus with a chip remover placed at the back of the dispensing section; used in an automatic dispensing analyzer that identifies a drug discovery screen field and enables the efficient discharging of disposable chips.	Juki Corp. (Tokyo)	Okubo K	8/8/2005	2/22/2007
US 20060228695	A method for determining hepatotoxic response or a pathology induced by a stimulus comprising receiving image(s) of hepatocytes that have been exposed to a stimulus, automatically generating features characterizing the hepatocytes and applying the features to a hepatotoxicity model or a pathology model to classify the stimulus, where the stimulus is classified as cholestasis, steatosis or apoptosis.	Cytokinetics (S. San Francisco, CA, USA)	Adams CL, Fan J, Mattheakis LC, Rao A, Solar GP, Trautman JK, Vaisberg E	7/18/2003	10/12/2006
WO 2006102416	An automated cell culture and passaging system comprising an incubation device to facilitate growth of cells in cell culture containers and an assay component to perform assay on cells from the cell cultures. The incubation device delivers cells from cell culture to the assay device without human intervention.	IRM (Research Triangle Park, NC, USA), Caldwell JS, Chang JY, Downs RC, King FJ, Mainquist JK	Caldwell JS, Chang JY, Downs RC, King FJ, Mainquist JK	3/22/2005	9/28/2006
US 20060207066	A robotic charge-coupled device microscope for crystal recognition that has a lighting system comprising a cluster of high-brightness white LEDs; useful for crystal recognition (claimed), which has applicability in structural genomics industries, in rational drug discovery and automated recognition of microscopic scale objects using light microscopy (e.g., tissue dissection pathology, tissue typing, colony counting).	Regents of the University of California (Oakland, CA, USA)	Segelke BW, Toppani D	3/16/2005	9/21/2006
WO 2006087366	An automated method for identifying strains of microorganisms that are deficient in protease secretion, comprising generating mutants, placing a mutant on a gel present in wells of a microtiter plate, incubating so that proteins are secreted by the mutants and separating mutants from the gel.	Cilian AG (Munich)	Broermann A, Hartmann M	2/16/2005	8/24/2006
WO 2006060214	A system for automatic manipulation of a biological sample comprising a product of manufacture to sustain a positioned biological sample, at least one stimulator to alter at least one parameter to which the sample is exposed, at least one sensor to measure the parameter and a controller comprising or operably connected to an algorithm to automatically determine the stimulus given to the sample.	Regents of the University of California (Oakland, CA, USA)	Ho C, Wong PK	11/18/2004	6/8/2006
WO 2006036737	A method for identifying a new therapeutic use for a test entity such as a drug or drug candidate, involving selecting the test entity, testing the activity of the test entity against a protein complex in a cell and using the results obtained to identify a new activity of the test entity.	Odyssey Thera (San Ramon, CA, USA)	MacDonald ML, Michnick SW, Owens S, Westwick JK, Yu H	9/22/2004	4/6/2006
WO 2005104755	An artificial immune system comprising a vaccination site having a first matrix and several cells attached to the matrix and a three-dimensional artificial lymphoid tissue having a second matrix and several lymphocytes; useful in a bioreactor for testing (e.g., vaccine efficacy) and for testing immunogenicity of agents (e.g., adjuvants, drugs, biogenics, cosmetics and other chemicals <i>in vitro</i> ).	Drake D, Fahlenkamp H, Higbee RN, Irvine DJ, Kachurin A, Mishkin E, Moe D, Nguyen MN, Parkhill R, Rivard M, Sanchez-Schmitz G, Tew JG, VaxDesign (Orlando, FL, USA), Warren WL, Moser J, Singh I, Song H	Drake D, Fahlenkamp H, Higbee RN, Irvine DJ, Kachurin A, Li CK, Mishkin E, Moe D, Nacohen N, Nguyen MN, Parkhill R, Randolph G, Rivard M, Sanchez-Schmitz G, Tew JG, Torbett B, Warren WL, Moser J, Singh I, Song H	4/28/2004	11/10/2005

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