

AcuityXpress High Content Informatics Software

Benefits

- Interactive image zoom drill down enables bidirectional interaction between images and numerical data
- Flexible and easy-to-use high-end data mining tools
- Fully integrated with the complete imaging solution
- Open API for easy read/write access to the database

AcuityXpress™ Software provides cellular informatics for the Complete Imaging Solution from Molecular Devices and has been specifically designed to address the needs of high-content data analysis at an enterprise level. AcuityXpress Software shares the MDCStore™ Database with MetaXpress® Software for seamless integration of image acquisition, image analysis and informatics. This integration enables direct linkage of data analysis with the original images.

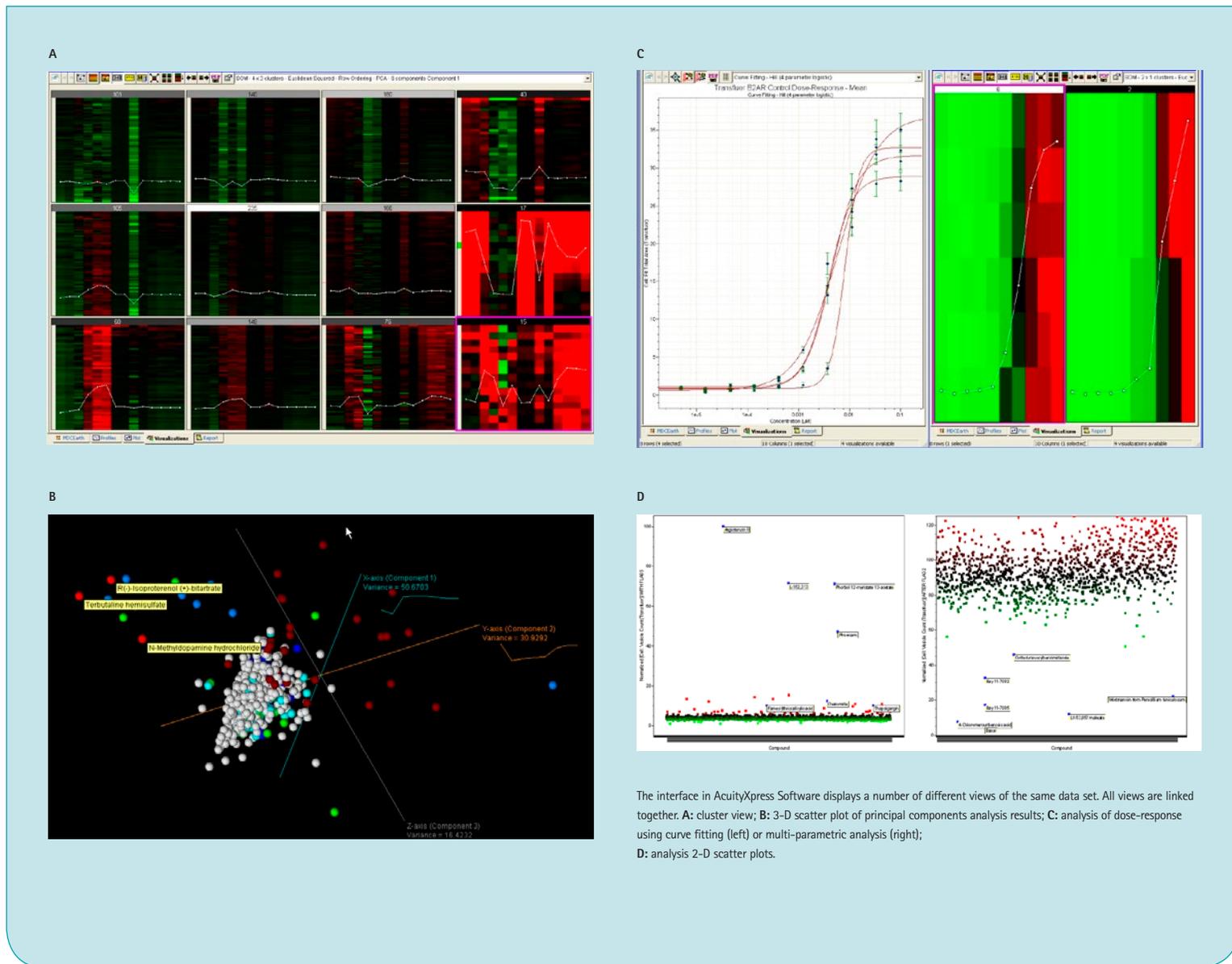
The interactive image zoom feature in AcuityXpress Software takes visualization of high-content data to the next level. This unique and ground-breaking tool allows for direct interaction of image and numerical data at all levels and in both directions—from the detailed view of the individual high-resolution images to the global, high-level view of all of the image data in a large screen. (See the interactive image zoom drill down views on page 3.)

Curve-fitting for IC₅₀ and EC₅₀ calculation can be generated with predefined functions, as well as custom functions with up to six independent variables and 24 fitted parameters. A number of search, minimization and weighting methods, and parameter seeding and model comparison are available for the very best fits.

Because high-content data is multiparametric in nature, a number of advanced analysis tools for data mining are easily accessible in AcuityXpress Software. From K-Means, K-Medians, Hierarchical Clustering to Self-Organizing Maps and more, cells can be clustered by phenotypes and compounds by responses. Interactive image zoom allows drill down to the original images to validate the results. With interactive image zoom, it is also possible to select the image data to analyze specific populations of cells or compounds.

Interactive scatter plots of any measurement against any other, within or between plates can be easily created. The array of statistical data includes Z', p-values, correlation coefficients and principal component scores.

AcuityXpress High Content Informatics Software interface

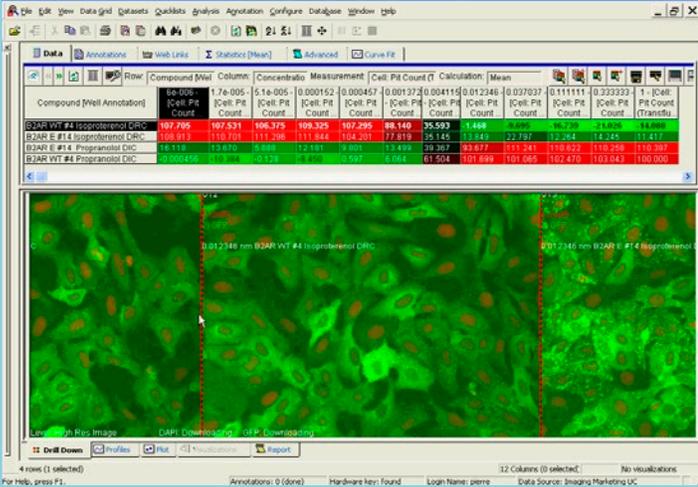
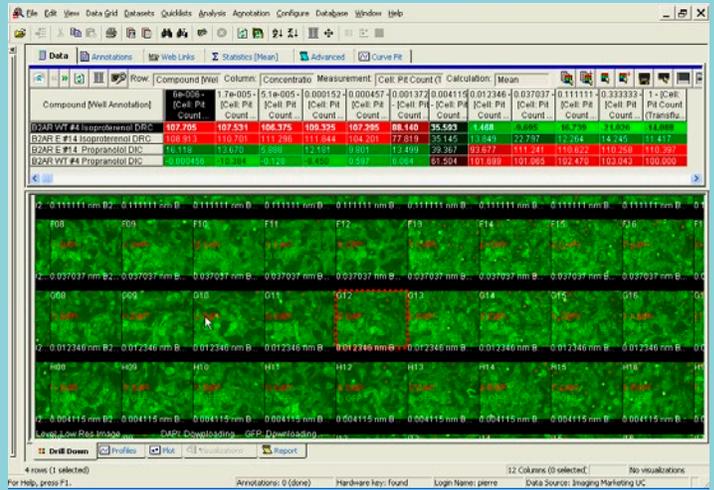
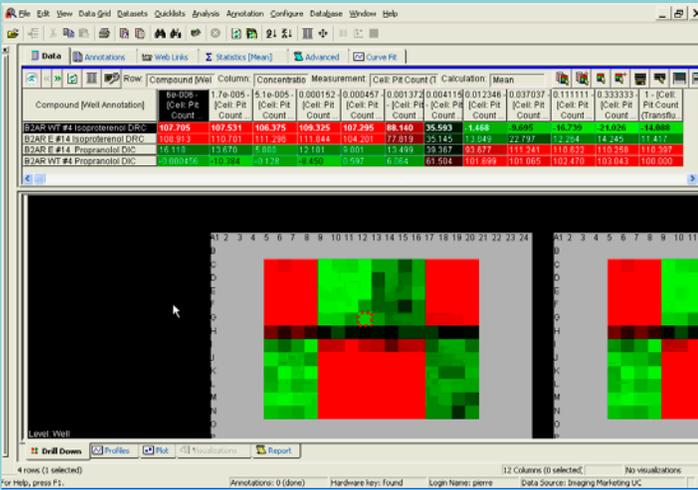


The interface in AcuityXpress Software displays a number of different views of the same data set. All views are linked together. **A**: cluster view; **B**: 3-D scatter plot of principal components analysis results; **C**: analysis of dose-response using curve fitting (left) or multi-parametric analysis (right); **D**: analysis 2-D scatter plots.

Interaction with the database is easy and complete with a simple wizard for the creation of advanced database queries and an Application Programming Interface (API) to allow writing to and reading from the database. Visualized data can be exported for publication quality images. Plate annotations can be managed plate by plate

with the graphical Plate Layout Manager or from text files or through the API. Finally, visualizations can be exported for publication quality images.

AcuityXpress Software interactive image zoom drill down feature



Interactive image zoom brings visualization of high-content data to the next level by allowing direct interaction of image and numerical data at all levels and in both directions—from the detailed view of the individual high-resolution images to the global, high-level view of all of the image data in a large screen.

Computer requirements

Minimum client

- IBM-compatible 32-bit computer with a 2.6GHz or faster Intel Pentium processor
- Microsoft Windows XP operating system
- 512MB system memory (RAM); more memory may be required for processing large image data sets
- 500MB available hard disk space for client programs
- 2GB available hard disk space for database and local image storage
- 32-bit graphics display
- 2 USB ports for software security keys
- 1 CD drive

Recommended client

- IBM-compatible 32-bit computer with a 3.2GHz or faster Intel Xeon processor
- Microsoft Windows XP operating system
- 4GB system memory (RAM)
- 100GB or more available hard disk space for database and local image storage
- Hard drives should have 16MB cache
- 32-bit graphics display, 256MB video RAM, dual monitor option
- 2 USB ports for software security keys
- Gigabit Ethernet card
- 1 CD/DVD writer

Server specifications

Please discuss your server requirements with your computer vendor. Server specifications depend strongly on the number of simultaneous users to support. We recommend the following:

Database requirements

One of the following database server software packages:

- Microsoft SQL Server 2000 SP3 or later, Standard, Enterprise, Datacenter and Personal Editions
- AcuityXpress and MetaXpress Software versions 2.0 and above are also compatible with MS SQL Server 2005 editions
- Oracle 9i Release 2 or Oracle 10g

Minimum database server

- IBM-compatible 32-bit computer with a 2GHz or faster Intel Pentium 4 or Xeon processor
- Operating system supported by database application in use
- 1GB system memory (RAM)
- 100 GB available hard disk space
- 2 USB ports for software security keys

Recommended database server

- IBM-compatible 32-bit computer with dual 2.6GHz (or faster) Xeon processors
- Microsoft Windows XP or Server 2003 operating system
- 1GB or more system memory (RAM)
- 1TB or more available space on a SATA or SCSI Raid 0, 5, or 10 storage sub-system
- Gigabit Ethernet card
- 2 USB ports for software security keys

Recommended ACE image file server

- IBM-compatible 32-bit computer with 2GHz or faster Intel Pentium processor
- Microsoft Windows XP or Server 2003 operating system
- 1GB or more system memory (RAM)
- 1TB or more available space on a SATA or SCSI Raid 0, 5, or 10 storage sub-system
- Gigabit Ethernet card

For best throughput, it is recommended that the client, database and image file server be located on separate computers.

Ordering information

AcuityXpress High Content Informatics Software

Part Number: 9500-0105



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