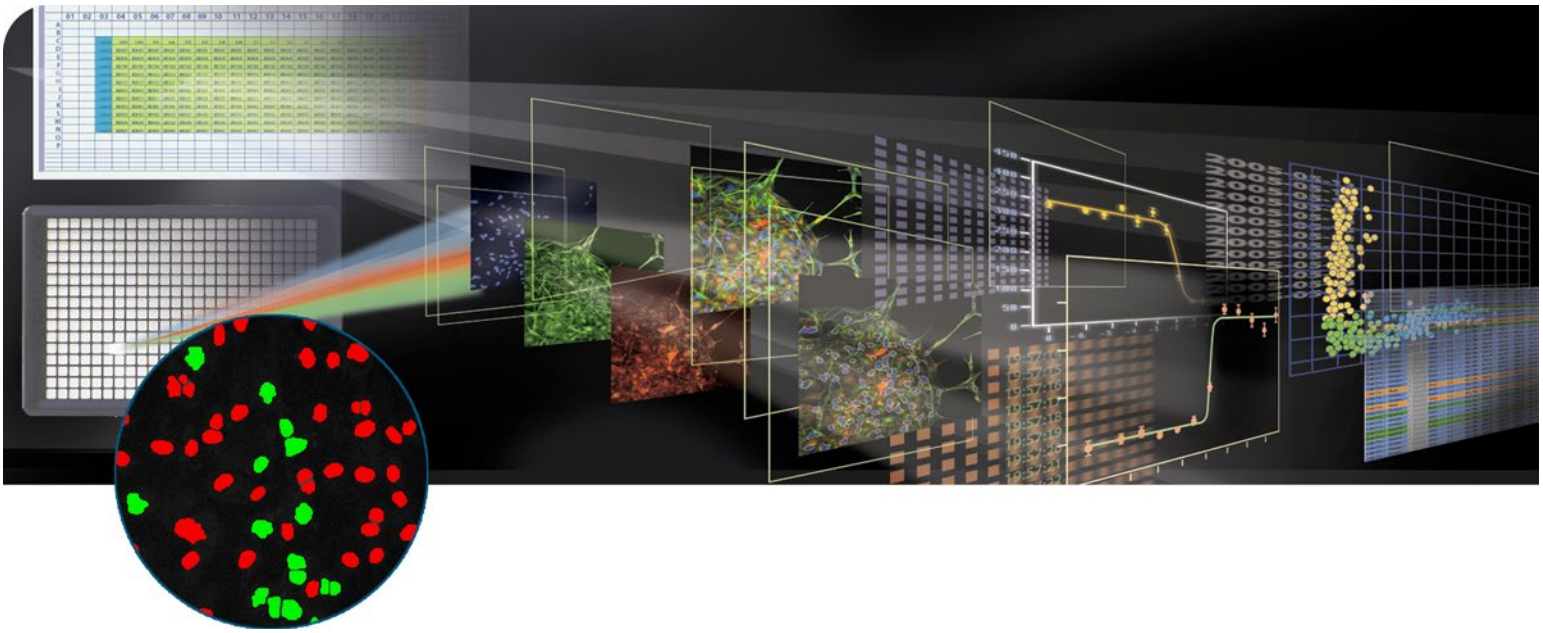
Molecular Devices

MetaXpress Software
Cell Scoring Application Module

ANALYSIS SOFTWARE DROP-IN FOR METAXPRESS SOFTWARE



- IDENTIFICATION OF SUB-POPULATIONS OF CELLS
- MULTI-PARAMETER ANALYSIS OF TWO PROBES
- ADAPTIVE BACKGROUND CORRECTION FOR IMPROVED SEGMENTATION
- FIELD AND CELL-BY-CELL MEASUREMENTS

The Cell Scoring Application Module for MetaXpress® Software from Molecular Devices is designed for the identification of two subpopulation of cells.

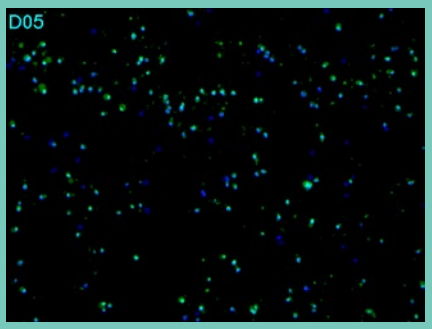
The module is ideal for counting and logging measurements of cells in two-wavelength experiments. Using a fluorescent marker for all nuclei and an additional marker for cells of interest, each wavelength is segmented and measured separately. The second stain can label the nucleus, cytoplasm or both.

The module makes a number of measurements including the number and percentage of cells scored as positive or negative as detected by the marker for the second wavelength.

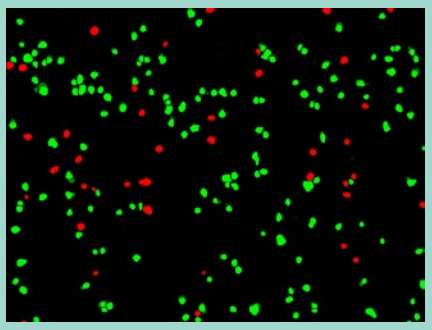
A simple interface minimizes setup efforts and settings can be saved for future use or customized to fit your experiment. Segmentation parameters are set for each wavelength and the analysis is run across the well, selected wells, the entire plate or multiple plates.

The module uses Adaptive Background Correction (ABC) to provide a more robust segmentation and assay repeatability. ABC automatically corrects uneven backgrounds throughout the image by adapting to local content.

Configure Analysis Parameters



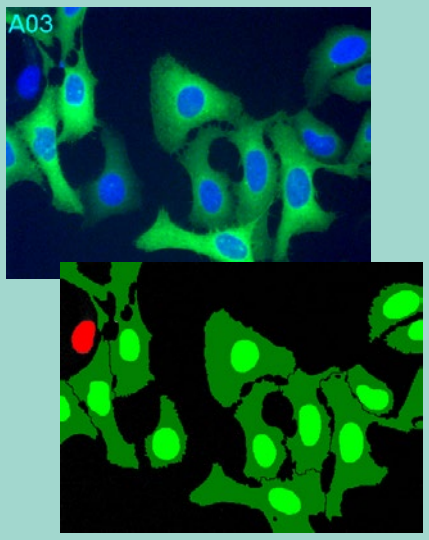
Run Analysis Across Entire Data Sets



Export Data for Further Analysis

	Cell: Assigned Label B	Cell: Classification	Cell: W1 Integrated Nuclear Intensity	Cell: W1 Average Nuclear Intensity	Cell: W2 Integrated Nuclear Intensity	Cell: W2 Average Nuclear Intensity	Cell: W2 Integrated Cell Intensity	Cell: W2 Average Cell Intensity
1	1	Positive	47745	884.167	26829	497.019	20469	490.045
2	2	Negative	43402	602.806	19673	273.236	19673	273.236
3	3	Positive	60174	925.754	46003	707.738	46381	702.742
4	4	Positive	18481	243.171	28332	372.789	33508	376.494
5	5	Negative	19088	260.683	11625	269.537	11625	269.537
6	6	Positive	63489	713.36	43303	486.551	47368	478.465
7	7	Negative	7658	273.5	9118	325.643	10646	332.688
8	8	Positive	47864	747.875	22384	349.75	22384	349.75
9	9	Positive	46349	634.918	22395	306.781	22395	306.781
10	10	Positive	159774	862.729	100292	554.652	103864	546.653
11	11	Positive	52218	987.603	26869	428.397	26869	428.397
12	12	Positive	51545	747.029	28179	408.391	29309	407.069
13	13	Positive	54694	621.409	36455	414.261	40461	412.067
14	14	Positive	47038	996.625	25807	537.646	26596	531.92
15	15	Positive	80770	1282.06	51617	819.317	62478	743.786
16	16	Positive	84145	867.474	40674	419.32	42195	417.772

Use Cell Scoring to Obtain Cell Detail



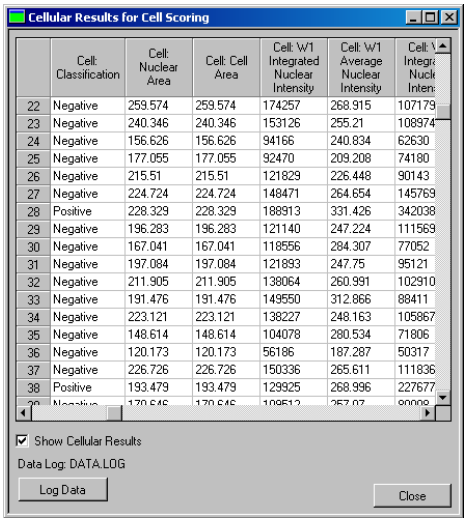
The module identifies nuclei, cytoplasm and cells classified as negative. Image courtesy of Xsira Pharmaceuticals.

CONFIGURATION FOR ANALYSIS

1. Select the image of interest
2. Specify the size range of nuclei
3. Set the intensity above local background
4. Choose the second image containing the positive marker stain
5. Select the stain area (nucleus, cytoplasm or both)
6. Specify the size range of cells and intensity above local background
7. Optionally specify the reporting parameters

INTERACTIVE DATA DISPLAY

Once the analysis is run, the Cellular Results table allows you to interactively view individual cells' data. Clicking a cell in the image highlights the data for the selected cell in the table.



	Cell: Classification	Cell: Nuclear Area	Cell: Cell Area	Cell: W1 Integrated Nuclear Intensity	Cell: W1 Average Nuclear Intensity	Cell: Integra Nucl Inten
22	Negative	259.574	259.574	174257	268.915	107179
23	Negative	240.346	240.346	153126	255.21	108974
24	Negative	156.626	156.626	94166	240.834	62630
25	Negative	177.055	177.055	92470	209.208	74180
26	Negative	215.51	215.51	121829	226.448	90143
27	Negative	224.724	224.724	148471	264.654	145769
28	Positive	228.329	228.329	188913	331.426	342038
29	Negative	196.283	196.283	121140	247.224	111569
30	Negative	167.041	167.041	118556	284.307	77052
31	Negative	197.084	197.084	121893	247.75	95121
32	Negative	211.905	211.905	138064	260.991	102910
33	Negative	191.476	191.476	149550	312.866	88411
34	Negative	223.121	223.121	138227	248.163	105867
35	Negative	148.614	148.614	104078	280.534	71806
36	Negative	120.173	120.173	56186	187.287	50317
37	Negative	226.726	226.726	150336	265.611	111836
38	Positive	193.479	193.479	129925	268.996	227677

CUSTOMIZATION THROUGH MACROS

MetaXpress Software is seamlessly integrated with the power and flexibility of MetaMorph® Software and its sophisticated and powerful macros that record and perform a series of tasks without the need for a programming language.

VALIDATED DATA

Development of application modules includes research and testing with a library of in-house and third-party data sets.

POWERFUL DATA EXPORT CAPABILITIES

All measurements can be directly exported to ORACLE®, Microsoft® SQL™, text file, Microsoft® Excel® or SciMagix® SIMS™.

MULTI-PARAMETER ANALYSIS

The application module can generate a number of field or cell-by-cell parameters. Field measurements include:

- → Count and percentage of negative and positive cells
- → Total and mean nuclei area of negative and positive cells
- → Wavelength-specific integrated and average intensity of negative and positive cells

Cell-by-cell measurements include:

- → Nuclear and cellular area
- → Wavelength-specific integrated and average intensities
- → Cell classification

ORDERING INFORMATION

Cell Scoring Application Module for MetaXpress:
Part Number: 9500-0037

FOR MORE INFORMATION

Check our web site
www.moleculardevices.com/mx

SALES OFFICES

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