

Screening File Format and Naming Convention

Abstract

A description of the naming and formatting of screening data sets

Discussion

Screen Acquisition and Review Screen Data require a specific header file and naming convention to be used. This same format is used to export plates from and import to MetaXpress.

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PRODUCTS
MetaMorph®
MetaXpress®
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The HTD file

All experiments stored on the drive will have a header file indicating which wells were acquired, which wavelengths were acquired and a description of the experiment. "Experimentname.HTD" will designate the header file name

The structure of a HTD file is shown below:

The highlighted items represent the variables used by the HTS Viewer to display the experiment. The database *Unique PlateIdentifier* may be included just before the "EndFile" on exported data.

Bracketed items are comments.

```
"HTSInfoFile", Version 1.0
"Description", "Place experiment description here"
"PlateType", 2 {This value could be 4 for large custom plates}
"TimePoints", 18 {This is the number of time point cycles}
"XWells", 11 {this values determine the size of the array }
"YWells", 6 {this values determine the size of the array }
"WellsSelection1", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"WellsSelection2", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"WellsSelection3", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"WellsSelection4", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"WellsSelection5", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"WellsSelection6", TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE, TRUE {these values determine which array elements were acquired }
"Sites", TRUE {whether there are multiple sites per well / array element }
"XSites", 4 {range of X sites per well - this line is not needed if Sites = False}
"YSites", 4 {range of Y sites per well - this line is not needed if Sites = False}
"SiteSelection1", FALSE, TRUE, FALSE, FALSE {this line is not needed if Sites = False}
"SiteSelection2", FALSE, FALSE, FALSE, FALSE {this line is not needed if Sites = False}
"SiteSelection3", FALSE, FALSE, FALSE, TRUE {this line is not needed if Sites
```

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= False}
"SiteSelection4", TRUE, FALSE, FALSE, FALSE {this line is not needed if Sites
= False}
"Waves", TRUE { this is for multiple wavelengths }
"NWavelengths", 2 { this should be 1 if Waves = False }
"WaveName1", "Name of first wavelength ex. Hoechst"
"WaveName2", "Name of second wavelength - if Nwavelengths < 2 this line will
not exist"
"WaveName3", "Name of third wavelength - if Nwavelengths < 3 this line will
not exist"
"WaveName4", "Name of fourth wavelength - if Nwavelengths <4 this line will
not exist"
"WaveName5", "Name of fifth wavelength - if Nwavelengths <5 this line will
not exist"
"WaveCollect1", 1 {frequency of collecting wavelength}
"WaveCollect2", 1
"WaveCollect3", 1
"WaveCollect4", 1
"WaveCollect5", 1
"EndFile"

```

The image storage convention

Non-kinetic experiments are stored in one directory with the HTD file in the same directory. Kinetic experiments will have one HTD file and sub-directories TimePoint_1, TimePoint_2, TimePoint_3 etc. Each subdirectory would have a copy of the HTD file.

The image file naming convention

The image files will be named using the following rules:

The basic filename structure is: Experimentname_welllabel_s^{sitenumber}_w^{wavelengthnumber}.TIF

All wellnumbers are listed as one or two letters followed by at least two digits. For 26 rows or less, the row part of the wellnumber is represented A-Z. If you wanted to do an experiment with more than 26 rows (although each row can have multiple sites) you need to specify a plate type of 4 (a 1536 well plate). The numbering system would then be Aa, Ab, Ac, Ad, Ba, Bb. You can label up to 104 rows in this way. The column part of the wellnumber is at least 2 digits (i.e. single digits are padded with leading zeros). If there is only 1 site per well leave out _s#. If there is only one wavelength leave out _w#

For example:

Experiment name: NFkB101200a, at well B7, at site 3, using wavelength #4 would use the header file "NFkB101200a.HTD". The image file would be called "NFkB101200a_B07_s3_w4.TIF". If there were only 1 wavelength and one site per well the image file would be called "NFkB101200a_B07.TIF"

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The image file storage convention

All image files are stored as standard 16-bit TIFF files. The image pixel calibrations, stage labels, stage positions, illumination setting, emission wavelength, magnification setting are stored in the description tag as XML.