

Release Notes

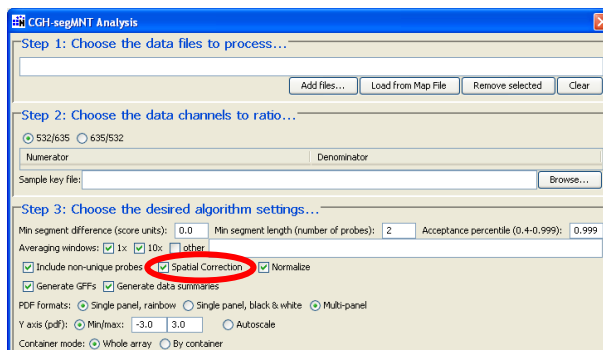
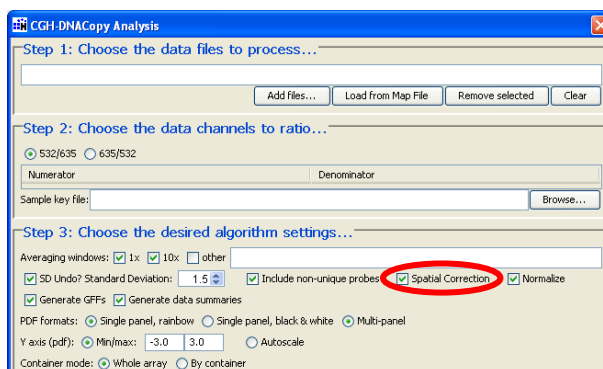
NimbleScan v2.4 Software

CGH Plug-In Update

New Functionality

Spatial Correction Support: Provides an option for applying a spatial correction to the raw data generated from NimbleGen CGH 2.1 million probe (HD2) 1-plex arrays. Roche NimbleGen has found that spatial correction reduces some artifacts observed in CGH HD2 data and has minimal impact on overall noise and \log_2 -ratio values in regions of copy number variation. When spatial correction is applied, it corrects position-dependent non-uniformity of signals across the array. Specifically, locally weighted polynomial regression (LOESS)¹ is used to adjust signal intensities based on X,Y feature position. This option has been incorporated into the DNACopy and segMNT functions of the CGH Analysis menu.

After installation of the CGH Plug-In update, the CGH-DNACopy Analysis and CGH-segMNT Analysis dialog boxes include a new *Spatial Correction* checkbox (see screen images on the following page). By default, the checkbox is selected to enable spatial correction. When enabled, spatial correction is applied to the raw data signal intensities of each feature before normalization and segmentation analysis. NimbleScan software stores spatially corrected data in all applicable output files (.gff, .pdf, and .txt).



Spatial Correction checkbox in the CGH-DNACopy Analysis dialog box (top) and CGH-segMNT Analysis dialog box (bottom)

Enhanced Functionality

Enhanced Output File Names: With the installed CGH Plug-In update, NimbleScan software generates an updated file (.txt, .pdf, .gff, .pair) whose file name contains additional tags inherited from the source image file name:

arrayID_usertag.ext

where *arrayID* identifies the NimbleGen CGH HD2 1-plex array, *usertag* is supplemental text you specify before analysis in your source TIFF file name, and *.ext* represents the system-generated file extension. Note that file names can contain only valid characters supported by the operating system.

Enhanced Segmentation Capabilities: This update also includes enhanced CGH analysis capabilities when using the *By container* option. See Chapter 6 of the *NimbleScan User's Guide* for more information about the *Container mode* settings in the CGH-DNACopy Analysis and CGH-segMNT Analysis dialog boxes.

Installing the CGH Plug-In Update

You can download this software update from the Roche NimbleGen website:

<http://www.nimblegen.com/cghplugin>

Important: *The CGH Plug-In update is available only for NimbleScan v2.4 software. Analysis of HD2 1-plex arrays is supported only on 64-bit versions of Microsoft Windows Vista and Linux Kernel v2.6 but not on 32-bit versions or the Macintosh operating system (Mac OS X or earlier).*

To install this update on computers running Microsoft Windows OS:

1. Download the CGH Plug-In installer for Windows to your local hard drive.
2. Double-click on the ns24_cgh12_install.exe file and follow the instructions to update your current installation of NimbleScan v2.4 software.

To install this update on computers running Linux OS:

1. Download the CGH Plug-In installer for Linux to your local hard drive.
2. Open a shell and change the directory (cd) to where you downloaded the installer.
3. At the prompt, type:

```
sh ./ns24_cgh12_install.bin
```

Note: *A Java virtual machine, included with the installer, will run automatically when you run the shell script.*

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