FoodPrint®
Software User Manual

for FoodPrint® Software Version 7.4

555-10-05

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1. Retrieve Files from CD

1.1. Load CD

Place the appropriate kit CD into the optical drive of the PC and view the contents either via the AutoPlay menu (see Figure 1) or through My Computer.

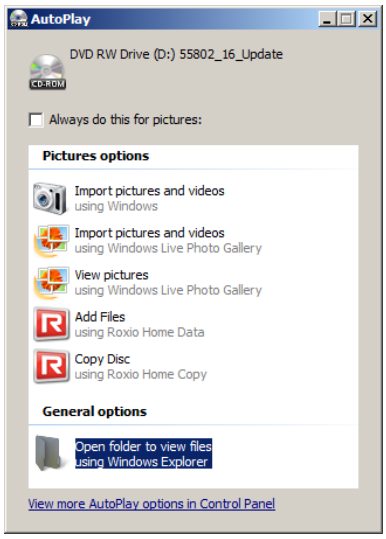


Figure 1 - AutoPlay menu

1.2. Copy Files

Copy the GAL file from the CD and place it in the 'Gal files - shortcut' folder that can be found on the desktop.

Copy the FoodPrint® software file from the CD and place it in the 'Genarrayt reporting software - shortcut' folder.

To copy the necessary files either:

- Drag and drop them into the relevant folders.
- Right-click the file icon and select 'Copy'. Open the destination folder, right-click and select 'Paste'.
- Right-click the file icon and press CTRL + C. Open the destination folder and press CTRL + V.

2. Start Software

Open the FoodPrint® software by double-clicking on the Microsoft Excel file just copied to the 'Genarrayt reporting software' folder. If a security warning message appears (see Figure 2), click to enable content.

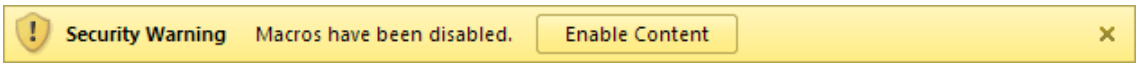


Figure 2 - Startup warning

After the CNS logo splash screen, the software will open on the 'Start' screen (see Figure 3). Ensure the 'User Code' field is populated and then, if required, enter Laboratory Details and Footer Text in the corresponding fields. Further details on report customisation with Logos, Laboratory Details and Footer Text can be found in sections 7.3 to 7.5 of this user manual.

Figure 3 - 'Start' screen

Click on the 'Open Workflow' button to proceed.

The first time that the software for a specific kit lot is used you will be prompted to enter the access code (see Figure 4) which can be found on the external kit packaging. This step will not be required on further uses of the same software batch.

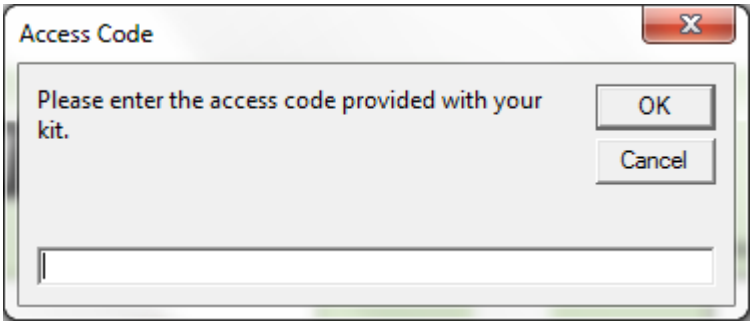


Figure 4 - Enter Access Code

On the first use of this software you may also be requested to enter your Microarray platform number. This can usually be found on a sticker attached to components of the system including the PC unit and scanner.

The 'Workflow' (see Figure 5) will guide you through the process of scanning slides and analysing the images. If this guidance is not required, click 'Open Reports Home' from the 'Start' screen to skip this step and go straight to creating and amending reports.

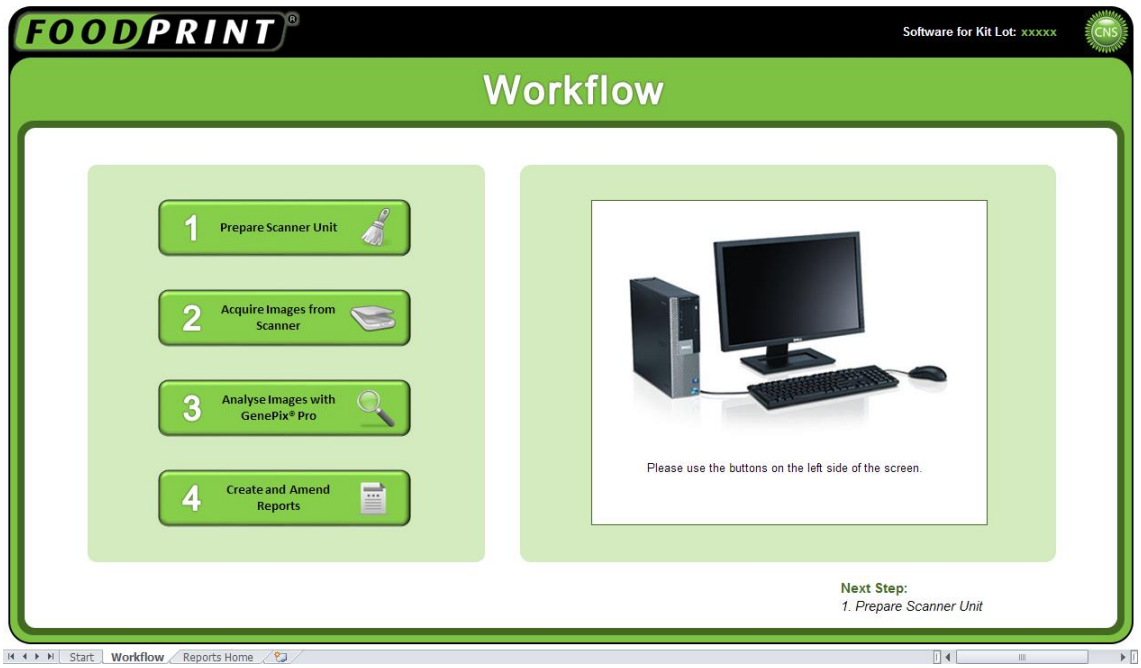


Figure 5 - 'Workflow' screen

3. Scan Slides

3.1. Prepare Scanner

Click on the 'Prepare Scanner Unit' button and follow the instructions on screen to ensure the scanner is ready to use. The screen in Figure 6 will appear.

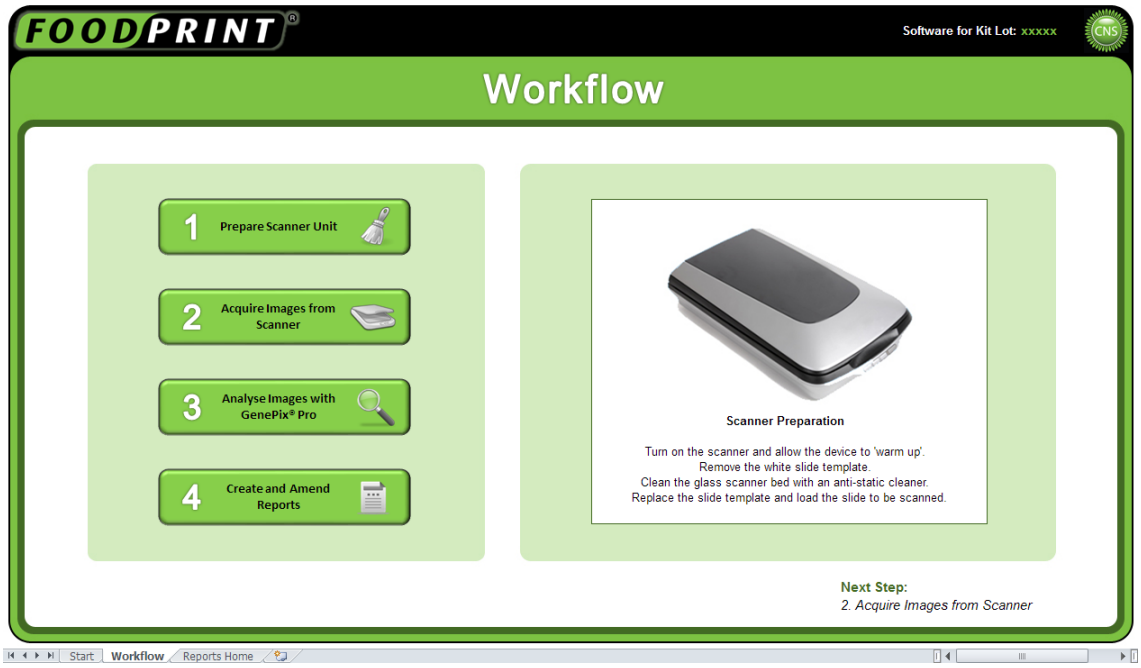


Figure 6 - Scanner preparation instructions

When placing the slides in the scanner, the white fiducial dot should be on the bottom right of the slide, facing downwards. At this point, make a note of which slide bays were used.

3.2. Scanning Slides

Once the scanner has been prepared, click on the 'Acquire Images from Scanner' button. The screen in Figure 7 will appear briefly while the SpotWare™ scanning program loads.

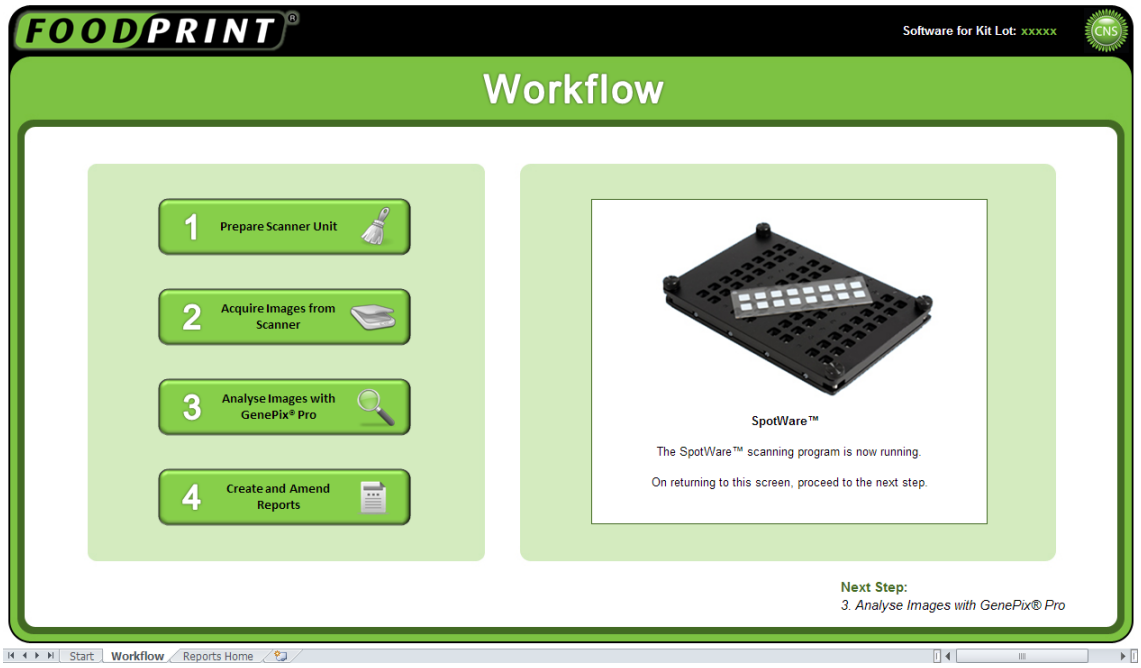


Figure 7 - SpotWare™ opening message

Once SpotWare™ has loaded, the window in Figure 8 will appear.

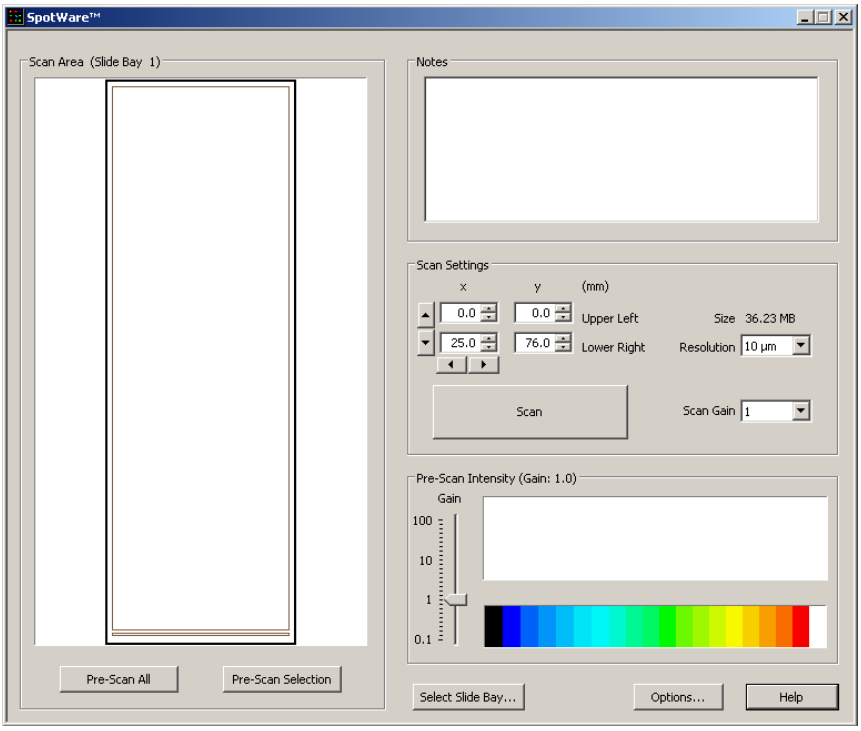


Figure 8 - SpotWare™

Make sure that in the 'Scan Settings' section, 'Resolution' is 10µm and 'Scan Gain' is 1, as in Figure 9.

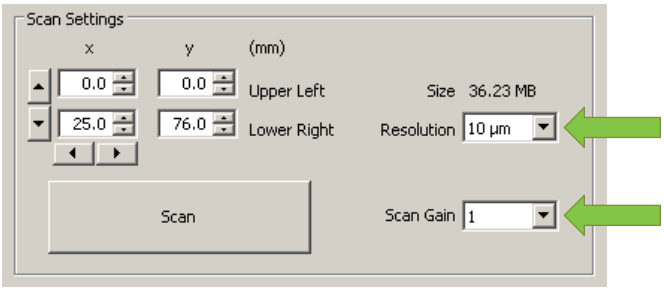


Figure 9 - Scan settings

Click on 'Select Slide Bay...' then select the slide bay position to be used and click 'Close' (see Figure 10).

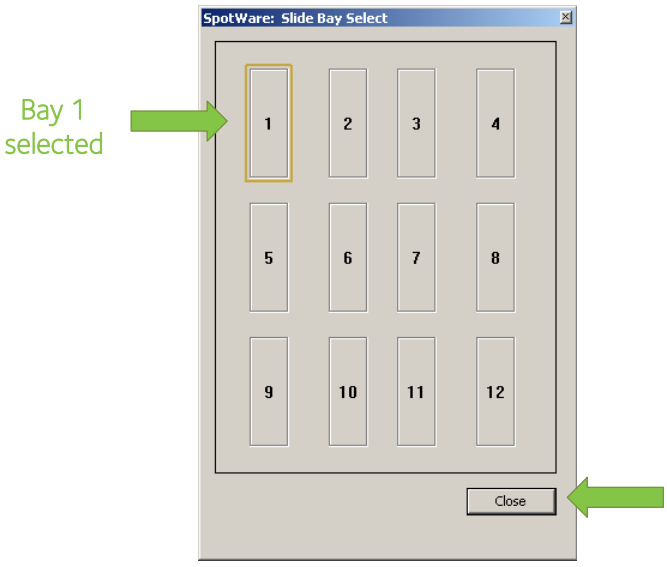


Figure 10 - Slide bay selection

Click the 'Pre-Scan All' button to generate a low resolution preview image of the slide (see Figure 11). This should take less than a minute to complete.

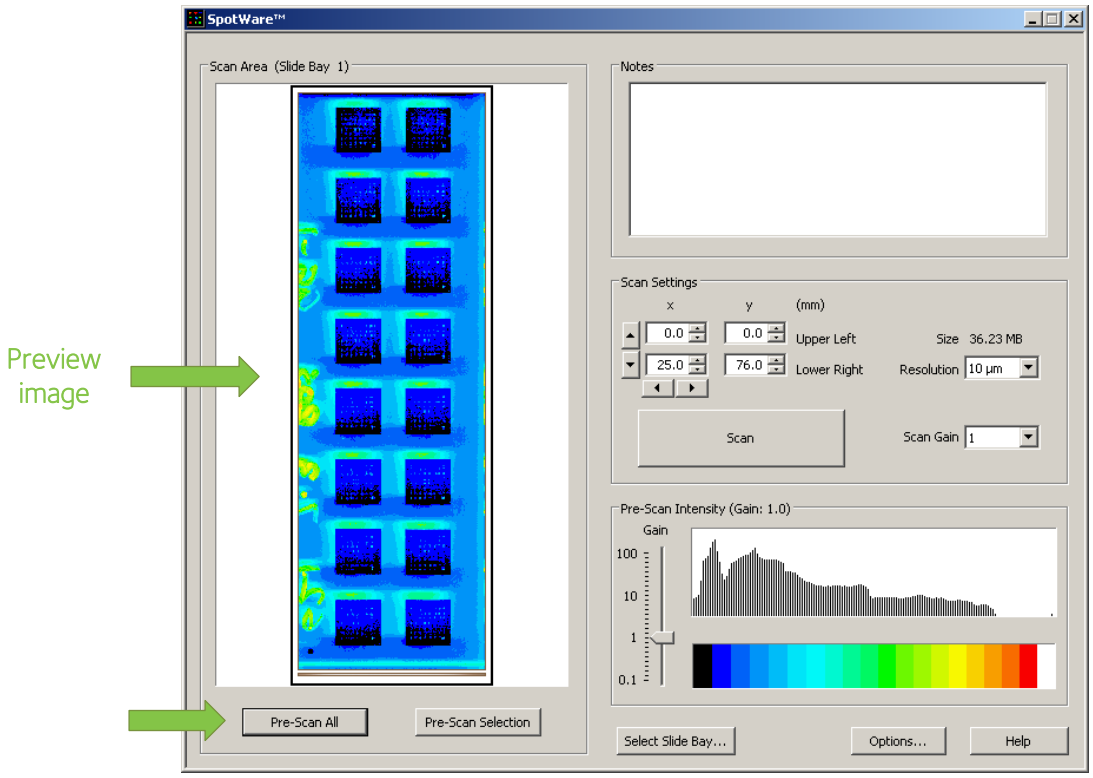


Figure 11 - Scan preview

If the slide being scanned is not a full 16 pad slide, use the cursor to click and drag a box around the pads to be scanned (see Figure 12). This will significantly reduce the scan time and decrease the size of image files.

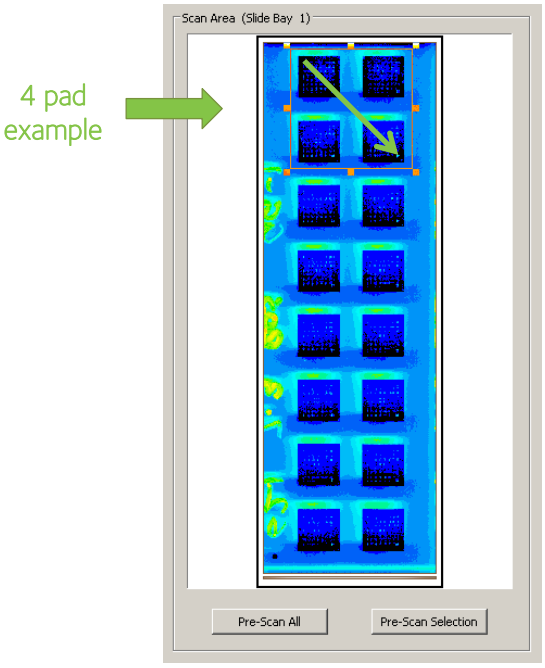


Figure 12 - Selecting scan area

Press the 'Scan' button to acquire a high-resolution image. This will take up to 7 minutes per full slide. Once the scan is complete a save dialogue window will appear (see Figure 13).

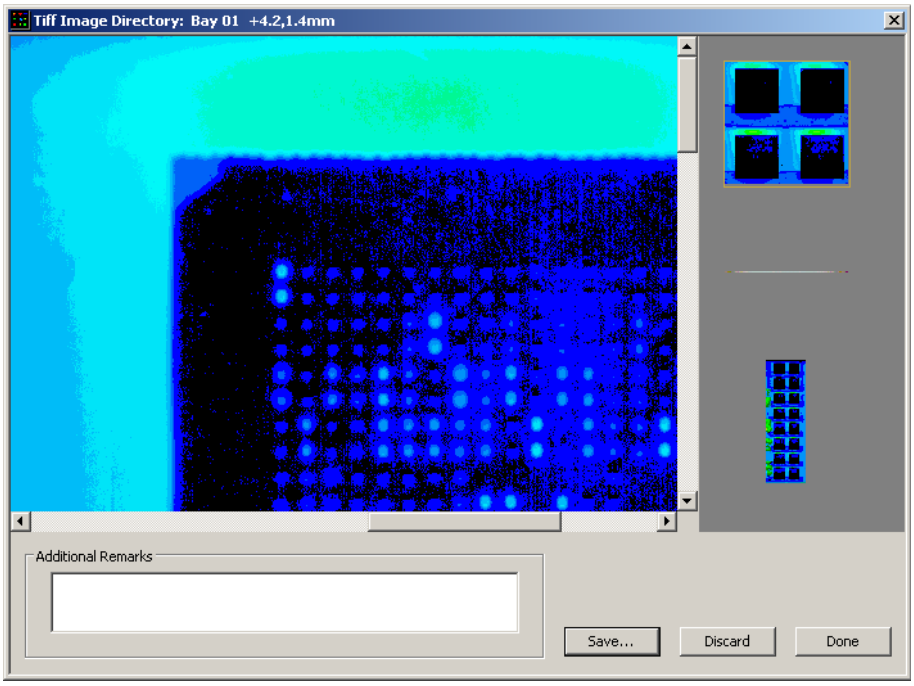


Figure 13 - Save dialogue window

Save the image as a TIF file with an appropriate title e.g. "140513 Slide1 Lot 51234". Images should be saved in C:\Genarrayt\SpotWare scans. Full 16 pad scans are large (>35MB).

If no more slides are to be scanned, close the SpotWare™ software and turn off the scanner. This will return you to the 'Workflow' screen.

It is recommended to process one slide at a time (scanning through to report generation).

4. Analyse Images

4.1. Open GenePix® Pro

Having returned to the 'Workflow' screen, click on the 'Analyse Images with GenePix® Pro' button. The screen in Figure 14 will appear briefly while GenePix® Pro loads.

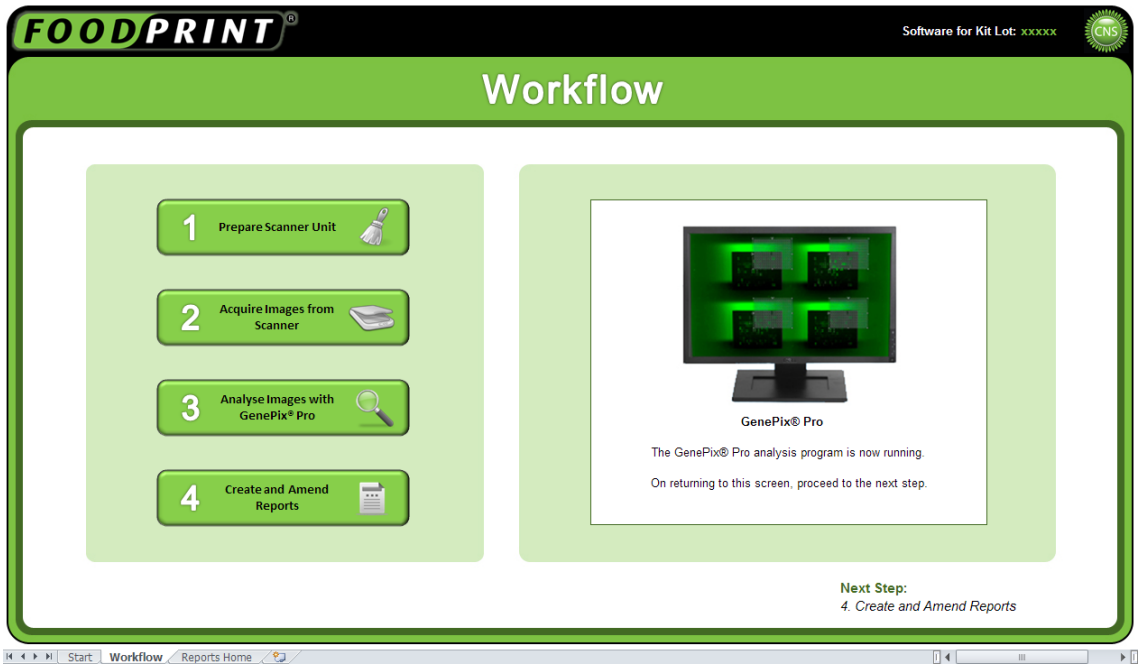


Figure 14 - GenePix® Pro opening message

Once GenePix® Pro has loaded, the window in Figure 15 will appear.

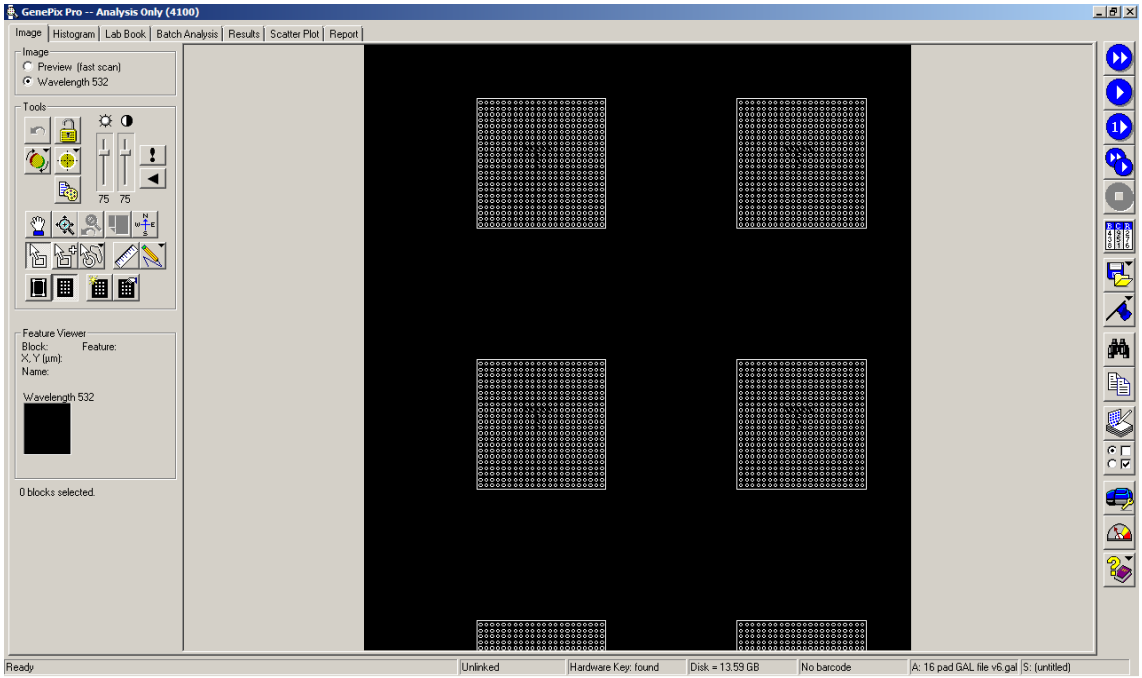


Figure 15 - GenePix® Pro

Click 'File' (highlighted in Figure 16) and select 'Open Images…'. Locate the file saved in 3.2 above and click 'Open'.

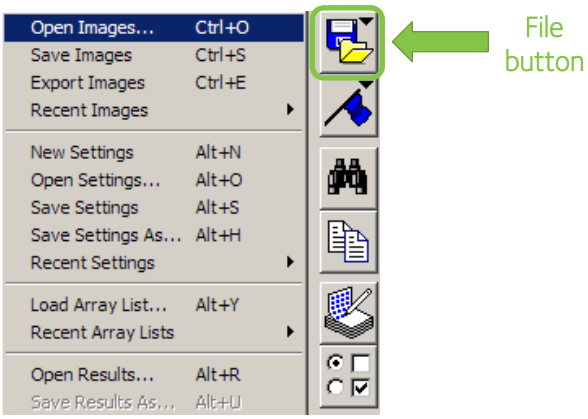


Figure 16 - 'File' menu

The software will request an assigned wavelength (see Figure 17). Use the CNS FoodPrint® platform number assigned to your laboratory during the installation and click 'OK'.

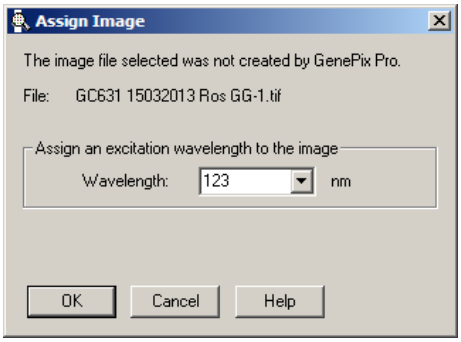


Figure 17 - Assign wavelength

Each time a new image is loaded, an appropriate array list should also be loaded. Click on 'File' button (see Figure 16), scroll down to 'Load Array List' and open the appropriate GAL file provided on the kit CD. The GAL file allows each spot to be correctly identified. You should now see a pattern of grids that matches the slide layout. If this is hidden, press the 'View Grids' button (highlighted at the bottom of Figure 18).

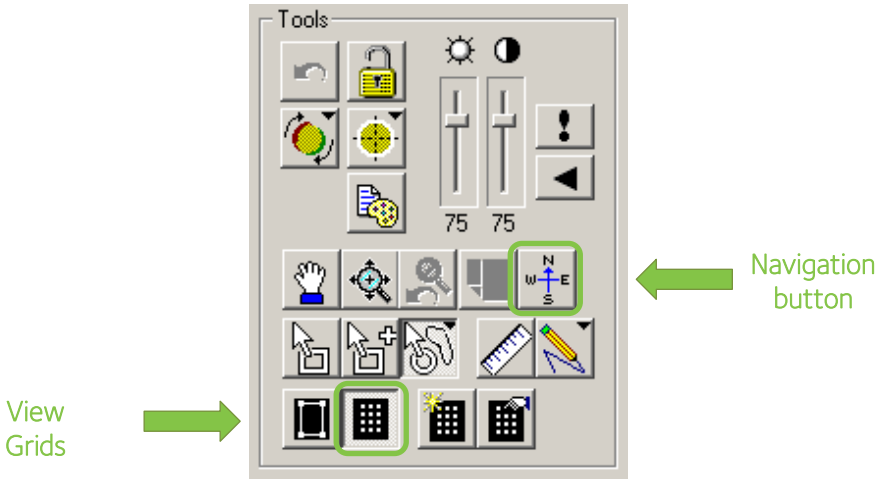


Figure 18 - Tools panel

It is useful to have the navigation tool active to orientate your position within the slide, especially when zoomed in. To open the navigation tool click the 'Navigation' button in the 'Tools' panel (see Figure 18) and drag the tool to a convenient location on the screen.

Press F8 on the keyboard to align the blocks and the spots (see Figure 19). This will take 5-30 seconds depending on the number of pads being analysed.

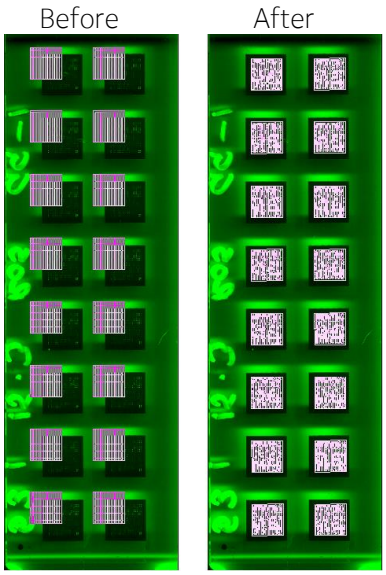


Figure 19 - Block fitting

4.2. Review Spot Fitting

Geneprix Pro® has several modes to use when analysing images. To view these, right-click on the slide somewhere and a menu will appear (see Figure 20).

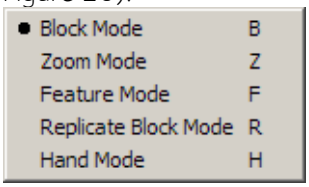


Figure 20 - Mode menu

There are two ways to swap modes: right-click and select the mode, as above, or simply type the letter that corresponds to the desired mode.

In 'Zoom Mode' (Z), left-click and drag a box around the first pad to be analysed; the pad will fill the window. Use the horizontal and vertical scroll bars as required to reposition the pad inside the window. The screen should now look like Figure 21.

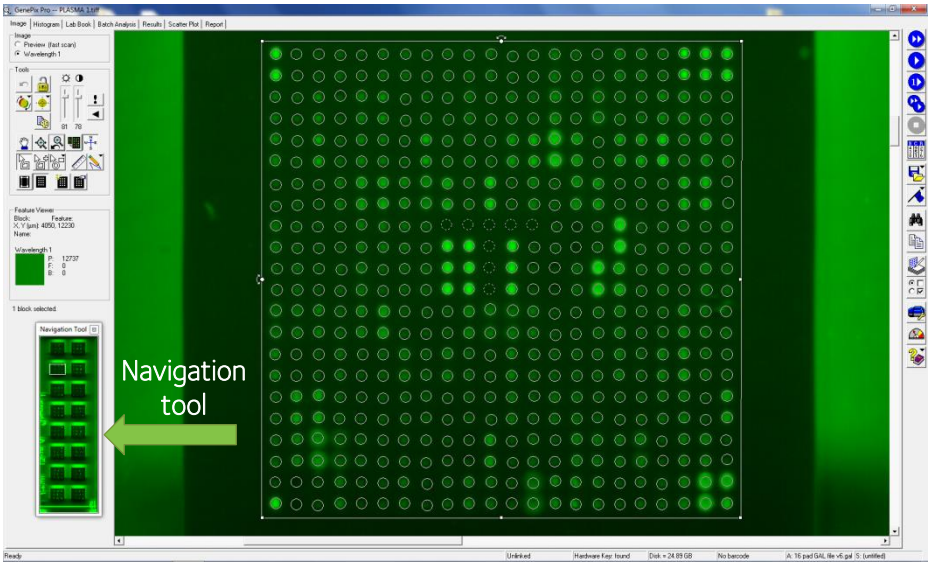


Figure 21 - Zoomed pad

To the left of the array image is a panel called 'Feature Viewer' (see Figure 22).

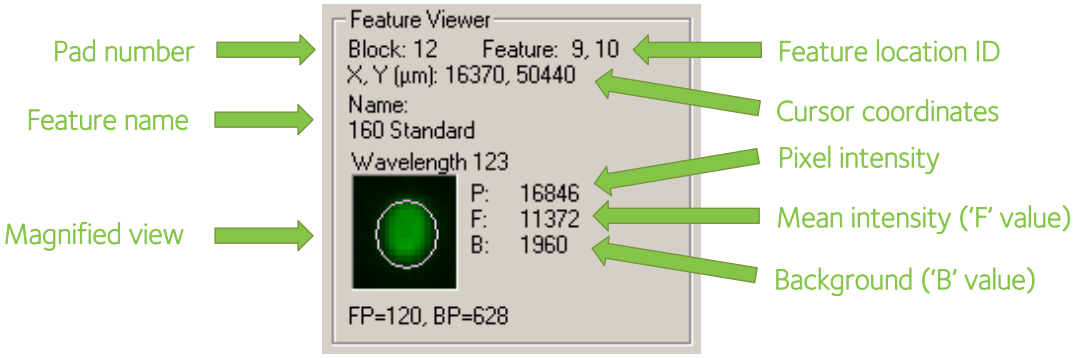


Figure 22 - Feature view

Enter 'Feature Mode' (F) and then complete the following checks for each pad in turn:

- Orientation
  - Confirm the blank 'T' in the middle is the right way up. There should be 6 bright spots to the left of the 'T' (IgG standards) and three bright spots to the right (positive controls). If this is not the case the slide has been scanned the wrong way round and will require rescanning.

- Standards, Controls and Foods
  - Ensure that each circle is centred around or within its corresponding spot on the array. If the circles need adjusting, see Section 4.3.

4.3. Correct Spot Fitting

When correcting spot fitting, changes can be made to multiple spots at the same time; either drag a box around the appropriate spots or hold down CTRL and click each spot to be adjusted. The below adjustments should be made as required to ensure all spots are correctly placed:

- Move: Relocate spots by clicking on them and using the arrow keys or dragging with the mouse.
- False positives: If a particle causes a negative spot to be positive, drag this spot onto its duplicate.
- Do not resize the spots.

If a single pad goes wrong, press F5 to reset just that pad.

Systematically repeat Sections 4.2 and 4.3 for each pad until all have been viewed and corrected as required.

4.4. Create GPR File

Once all the pads have been checked, click on the 'Analyze' button on the right-hand side tool bar (see Figure 23).

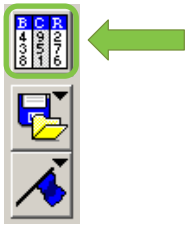


Figure 23 - 'Analyze' button

In the File menu, click on the 'Save Results As' option (see Figure 24 -). The results will be saved as a GPR

file using the same file name as the SpotWare™ TIF file opened in Section 4.1.

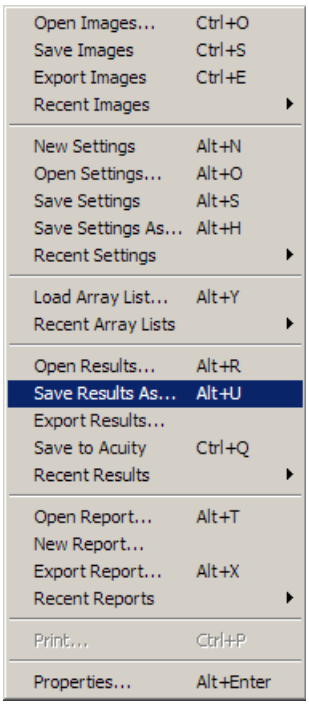


Figure 24 -

A dialogue box will appear stating that a number of features do not have ID's – click 'OK'. These are the alignment 'T' spots on all the pads – each pad having 8 spots making up the 'T'.

Close the GenePix® Pro software to return to the FoodPrint® software.

5. Import GPR & Save Software

5.1. Open 'Reports Home'

Having returned to the 'Workflow' screen, click on the 'Create and Amend Reports' button. The screen in Figure 25 will appear briefly.

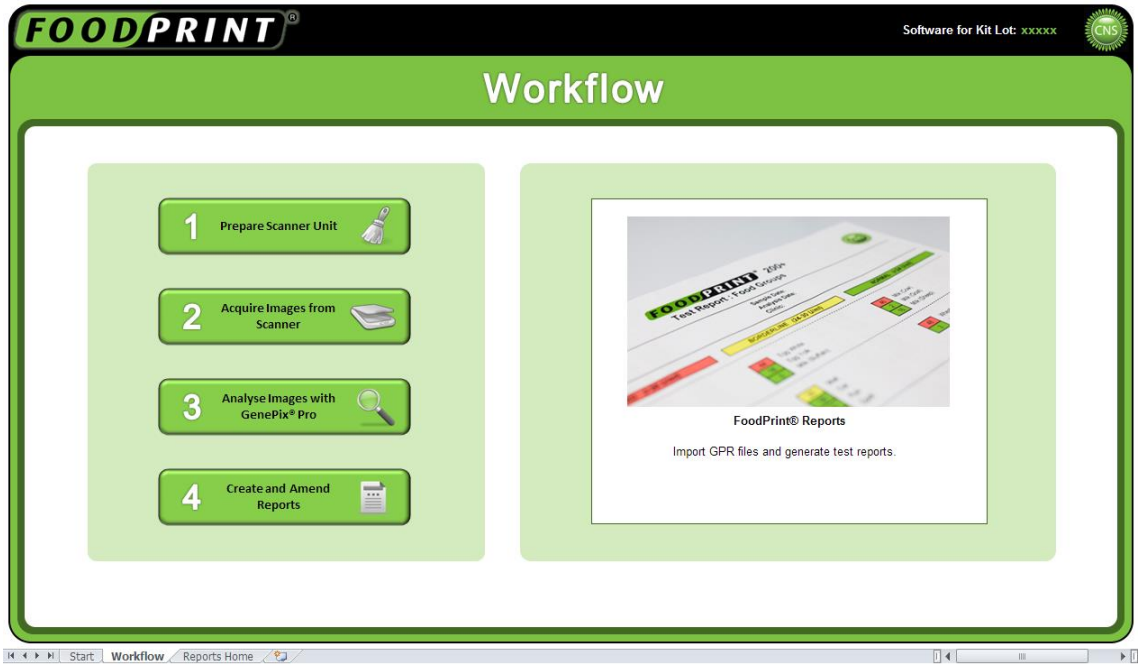


Figure 25 - Create and amend reports

The 'Reports Home' screen will then open (see Figure 26). All reports are generated here.

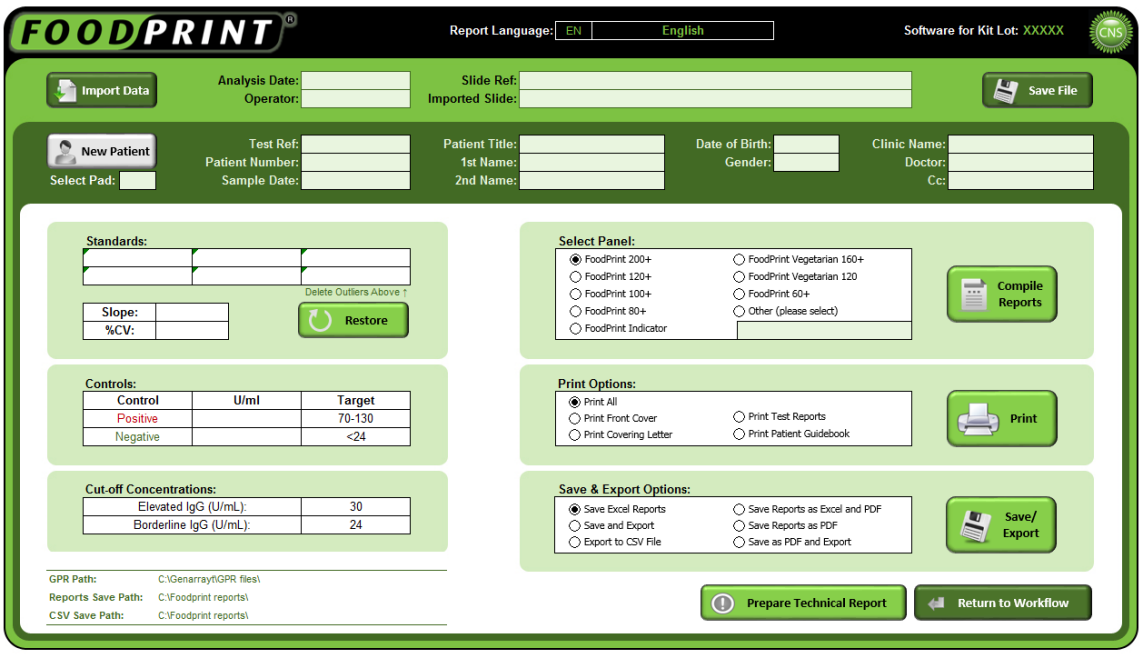


Figure 26 - 'Reports Home' screen

5.2. Import and Save

Choose the report language from the drop-down list at the top of the screen (see Figure 27).

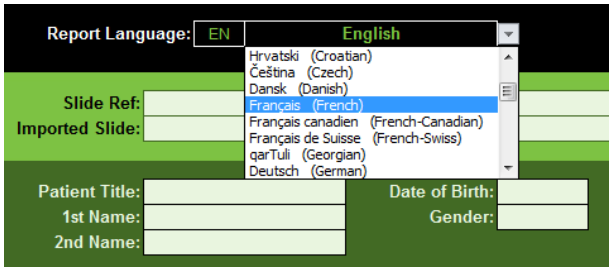


Figure 27 - Language selection

Click the 'Import Data' button (see Figure 28) and open the GPR file just made in GenePix® Pro.

Figure 28 - Slide details bar

The 'Imported Slide' field will contain the file path of the TIF image used to create the imported GPR file (see Figure 28). Ensure the correct slide is selected before continuing.

Enter the 'Analysis Date', 'Operator' and 'Slide Ref' into the appropriate fields. Please note that the 'Slide Ref' field is mandatory.

Save the software for the current slide by clicking 'Save File' (see Figure 28). The file will be saved to the 'Foodprint reports/Slide Software Files' folder using the 'Slide Ref' as a filename. To prevent errors when saving the file, the 'Slide Ref' should not contain the following characters: \ / : * ? " < > |

6. Generate Reports

Excluding the FoodPrint® Indicator, each panel produces two reports:

- Food Groups report - The foods are grouped by type and then listed alphabetically to make locating a particular food as simple as possible.
- Order of Reactivity report - The foods are grouped by their classification (elevated, borderline or normal) and then listed in order of reactivity.

The FoodPrint® Indicator test produces a single report stating if the patient was positive or negative. The sections below provide a guide for generating these reports.

6.1. Patient Details

Click the 'New Patient' button to clear any pre-existing patient details (see Figure 29). It is best practice to do this even when entering details for the first pad to ensure it becomes routine.

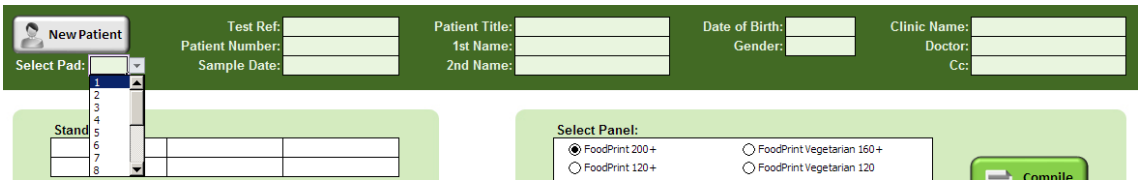


Figure 29 - Patient section

Choose the appropriate pad from the drop down menu below the 'New Patient' button (see Figure 29).

The standard and control values for the selected pad will appear in the area below the Patient section (see Figure 30).

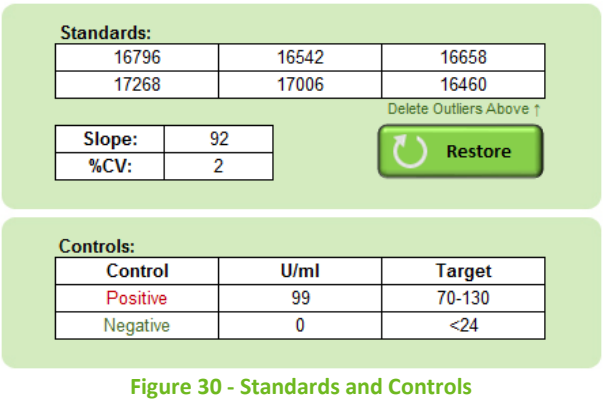


Figure 30 - Standards and Controls

Enter all necessary patient and clinic details to the right of the 'New Patient' button. All dates should be entered in DD/MM/YYYY format. If any fields are missed this may affect the details present on the generated reports.

6.2. Standards and Controls

Within the 'Standards' section (see Figure 30), ensure that the %CV value is less than 20%. If the value exceeds this target, delete any obvious outliers in the standard grid to bring it back into range. To reset the values, click the 'Restore' button. An example is shown in Figure 31.

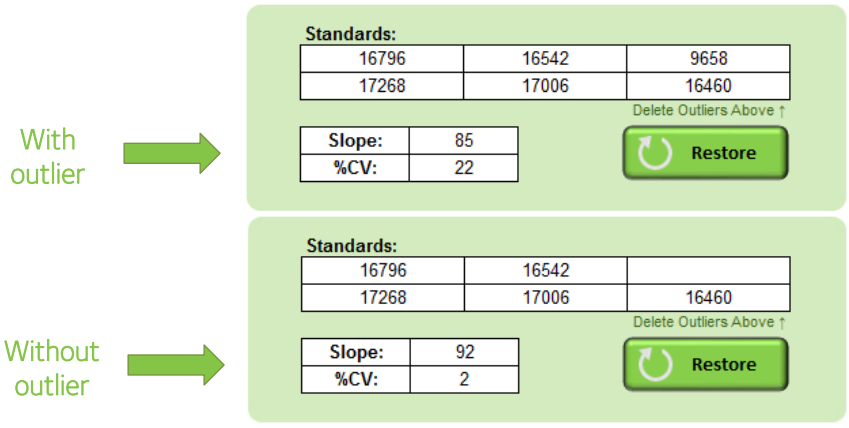


Figure 31 - Outlier removal

Within the 'Controls' section (see Figure 30), ensure that the positive control value falls in the range 70-130 and the negative control is less than 24.

6.3. Panel Selection

From the 'Panel Selection' section (see Figure 32), choose the required panel for the current patient and then click the 'Compile Reports' button. More options are available in the dropdown when 'Other' is selected.

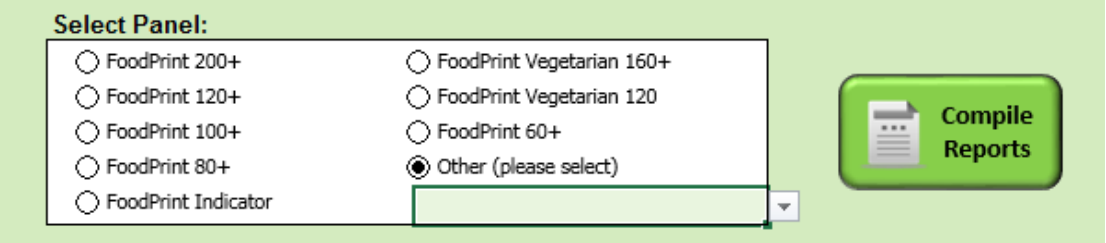


Figure 32 - Panel options

6.4. Report Preview

Once compiled, previews of the reports will appear as green tabs at the bottom of the screen (see Figure 33).

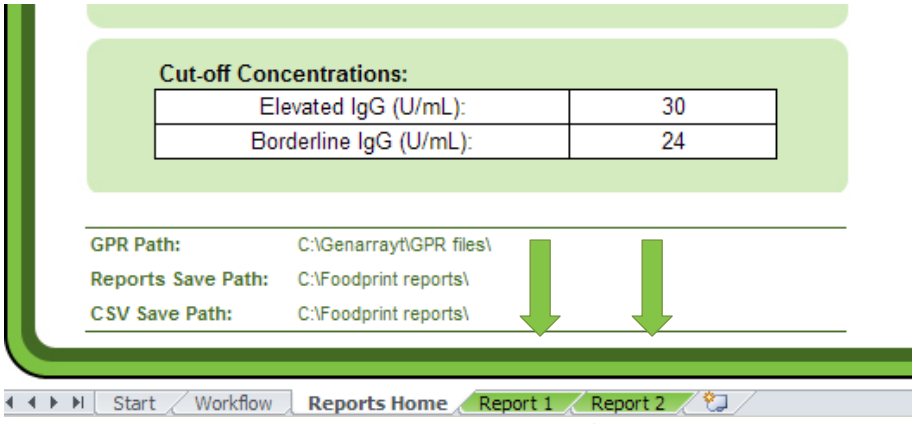


Figure 33 - Report preview tabs

To view the compiled report, simply click into these tabs.

When finished previewing, return to the 'Reports Home' tab by clicking the 'Return to Reports Home' button (see Figure 34).

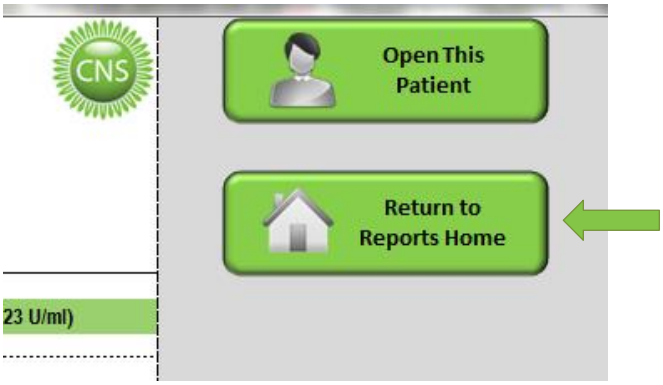


Figure 34 - 'Return to Reports Home' button

6.5. Printing

To print all or part of the patient report pack, select the required option in the 'Print Options' panel and click 'Print' (see Figure 35). The 'Print All' option prints each of the components of the patient pack:

- Front cover
- Covering letter (see section 7.7)
- Test report(s)
- Patient guidebook

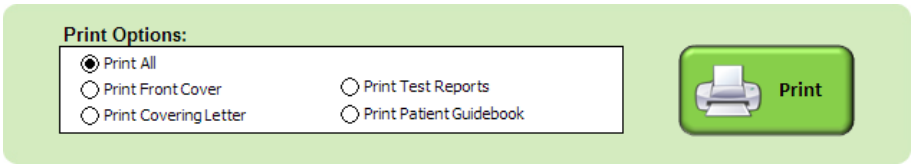


Figure 35 - Printing options

6.6. Saving

The 'Save & Export Options' panel contains several choices for saving results (see Figure 36).

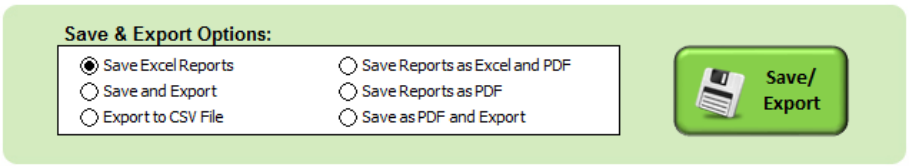


Figure 36 - Saving options

Results can be saved in three different formats: Excel report, PDF report or CSV export file. Table 1 shows the formats that each option will save to.

	Excel	PDF	CSV
Save Reports	●		
Save and Export	●		●
Export to CSV			●
Save Reports as Excel and PDF	●	●	
Save Reports as PDF		●	
Save as PDF and Export		●	●

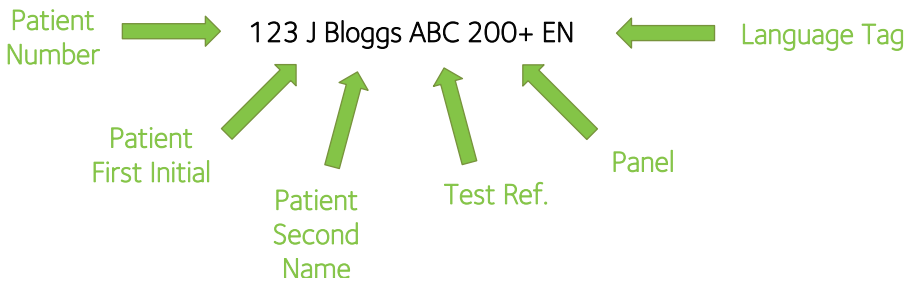
Table 1 - Save formats

Reports saved as Excel files contain the option to reopen the FoodPrint® software for the correct slide and patient allowing reports to be easily upgraded (see Section 7.8).

Reports saved as PDF files will contain the front cover, cover letter and report(s).

Select the desired format(s) to save the reports to and click 'Save/Export' (see Figure 36).

The saved filenames follow this basic naming convention:



Note: CSV files have 'CSV' added between the report panel and language.

6.7. Repeat

Repeat the whole of Section 6 for each active pad on the slide.

To scan a new slide, click 'Return to Workflow' and follow the instructions again (see Section 3).

7. Additional Information

7.1. Technical Report

Should an issue arise during the processing of patient results, a technical report may be requested by our support team. To generate a technical report click 'Prepare Technical Report' at the bottom of the 'Reports Home' screen (see Figure 37).

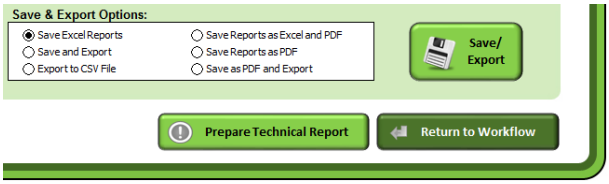


Figure 37 - 'Prepare Technical Report' button

A new workbook will open pre-loaded with important information designed to speed up the troubleshooting process.

Once opened, a prompt will appear for the slide GPR file. Locate the file and click 'Open'. To skip the GPR import click 'Cancel' on this step.

The next window will ask for a description of the issue/enquiry. Enter these details and click 'OK'. At this stage you can also cancel the report if required by clicking 'Cancel Report'.

Upon clicking 'OK' a technical report file will be saved in 'C:\Genarrayt\Technical Reports' using the 'Slide Ref' as a filename. This folder will then open so that the file can be emailed to our On-Market Product Support team at support@elisa.co.uk along with any corresponding TIF images and patient reports.

7.2. Cut-off Adjustment

It is possible to adjust the cut-off point for the assay by changing the value highlighted below in the 'Cut-off Concentrations' box in the 'Reports Home' sheet (see Figure 38).

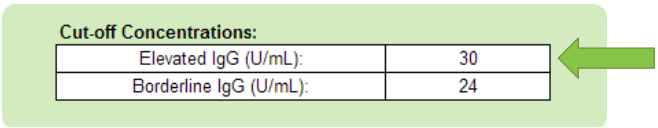


Figure 38 - Elevated cut-off

Based on in-house studies this has been set to 30, although users of the kit should verify this in their own laboratory under local conditions. The borderline point is defined as 20% below the cut-off, below which results are reported as normal.

7.3. User logos

A custom logo can be included in the top left corner of the FoodPrint® reports. The logo will require formatting and installing on the FoodPrint® system in order for the software to incorporate it into each report generated. If this facility is required, please send a copy of the required logo to support@elisa.co.uk. The image will formatted for inclusion on the reports and an installation file will be returned to enable the setup of the logo.

7.4. Laboratory details

Laboratory details may be included at the top of each report. See Figure 39 for an example of how this would appear on a report.

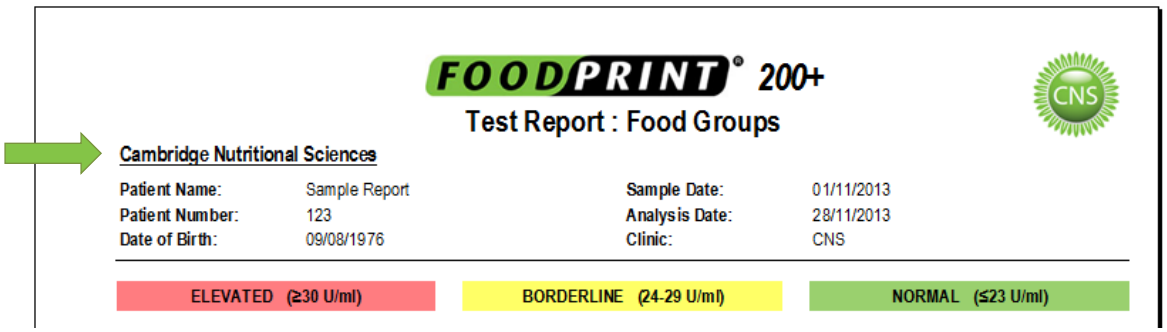


Figure 39 - Laboratory details

The required text should be entered into the specified field on the 'Start' screen (see Figure 40). Clicking the save icon will store this text so that it is automatically imported on future openings of the FoodPrint® software.

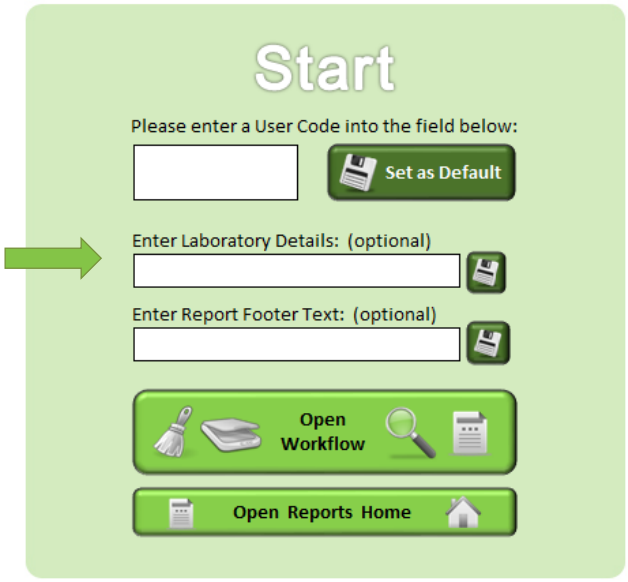


Figure 40 - Laboratory details input

To clear the default laboratory details, delete the text from the 'Enter Laboratory Details' field and click the save icon.

7.5. Report Footer

A single line of text may be included at the foot of each report page as shown in Figure 41. Note that this text will appear on printed and PDF reports but not be visible on the report preview pages.

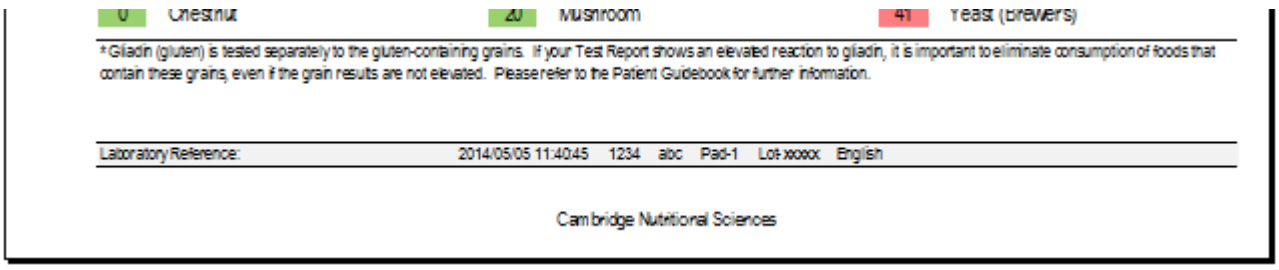


Figure 41 - Report Footer

The required text should be entered into the specified field on the 'Start' screen (see Figure 42). Clicking the save icon will store this text so that it is automatically imported on future openings of the FoodPrint® software.

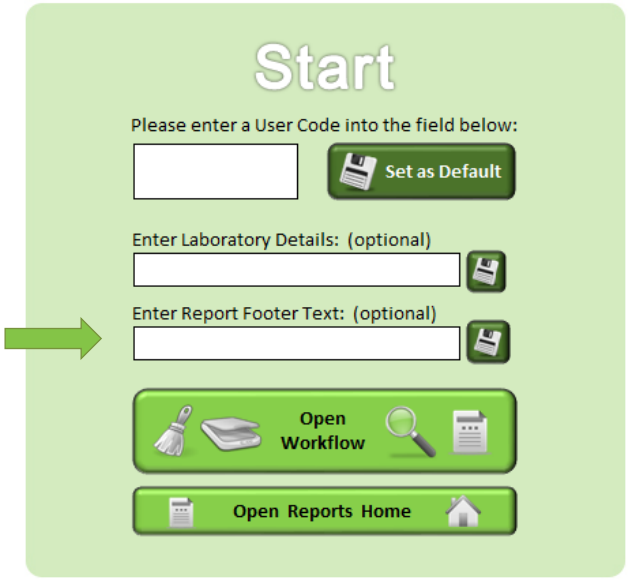


Figure 42 - Report Footer text input

To clear the default footer, delete the text from the 'Enter Report Footer Text' field and click the save icon.

7.6. Additional Report Files

In addition to the FoodPrint® software, files are required for the:

- Report Front Cover
- Covering Letter
- Patient Guidebook

These will be included on the software CD with each kit and should be placed in the folder 'C:\Genarrayt\Additional report files'

Where multiple versions of front covers, covering letters and guidebooks have been installed to cater for additional languages, these will be used with the following priority:

1. If only one file of a type is present this will be used
2. A file with a language tag that corresponds to the selected language (see section 7.9)
3. A file with the original format file name (as found on the kit CDs for version 7.0 and 7.1 software)

7.7. Covering Letter

Covering letters are Microsoft Word documents and are situated in the 'Additional report files' folder (see Section 7.6). Two versions are required: one to accompany a full report and one to accompany indicator reports. These must be saved under the following filenames:

- FP Report Covering Letter
- FP Report Covering Letter - Indicator

Template letters are provided in the 'Additional report files' section of the kit CD.

The three bracketed patient ID fields (see Figure 43) will be replaced by the appropriate details as entered in the FoodPrint® software. If a field is not required, it can be deleted from the letter template.

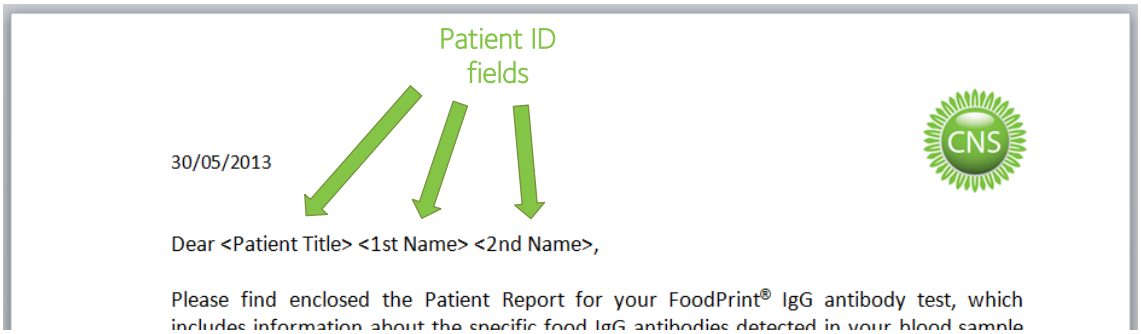


Figure 43 - Covering letter

Custom letters can also be created, either by editing the templates provided or from a new document. As long as they are saved with the above filenames they will be printed when the appropriate option is selected. If the bracketed patient ID fields are typed as above, the letters will be personalised on printing.

7.8. Report Upgrades

Reports saved as Excel sheets have an 'Open This Patient' button next to the header (see Figure 44). Clicking on this button will open the FoodPrint® software for the correct slide and automatically re-enter the patient details.

This function can be used to quickly reprocess the report or upgrade the patient to a different panel. To upgrade the panel, simply compile a new report as explained in Section 6.3. Once compiled, the new report can be saved and printed (see Sections 6.5 and 6.6).

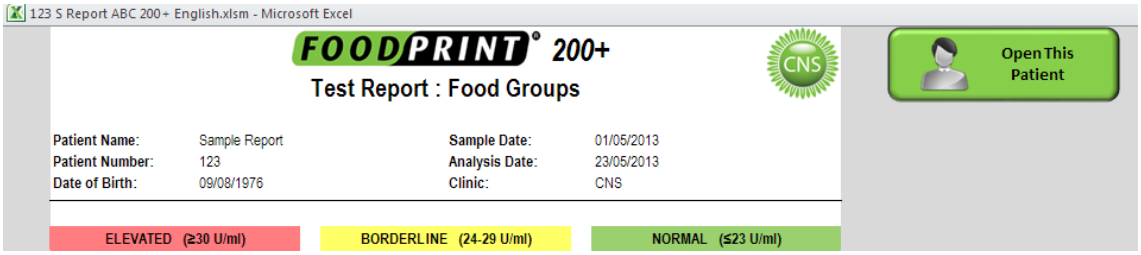


Figure 44 - 'Open This Patient' button

7.9. Language Tags

Language tags are used to identify the language of saved reports and additional files. These consist of the ISO639-1 language code extended by the ISO3166-1 country code to indicate regional variations where required.

The code for the selected language is indicated to the left of the language name on the 'Reports Home' screen (see Figure 45).

Figure 45 - Language Tag

7.10. Installing GenePix® Settings

Copy the GenePix® settings (GPS) file from the 'GenePix Settings' folder on the CD and place it in the folder C:\Axon\Params.

To copy the necessary file either:

- Drag and drop them into the relevant folders.
- Right-click the file icon and select 'Copy'. Open the destination folder, right-click and select 'Paste'.
- Right-click the file icon and press CTRL + C. Open the destination folder and press CTRL + V.

Open GenePix® Pro by double-clicking the icon on the desktop or by selecting the 'Analyse Images with GenePix® Pro' button from the 'Workflow' screen within the FoodPrint® software.

Within GenePix® Pro, click 'File' (highlighted in Figure 46) and select 'Open Settings…'.

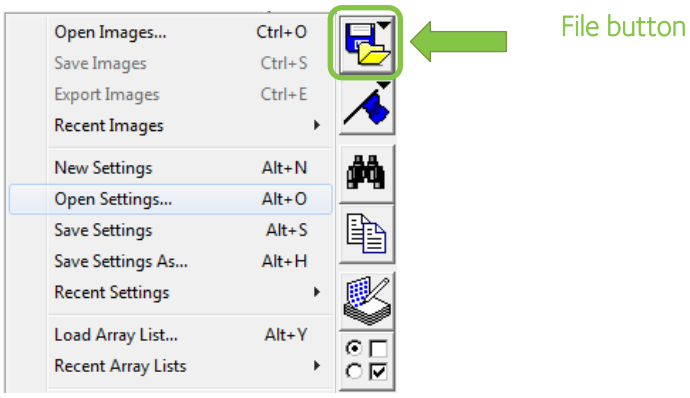


Figure 46 – 'File' menu

Select the new GenePix settings file and click 'Open' (see Figure 47). The folder C:\Axon\Params should open by default, but if required it can be chosen via the dropdown menu at the top.

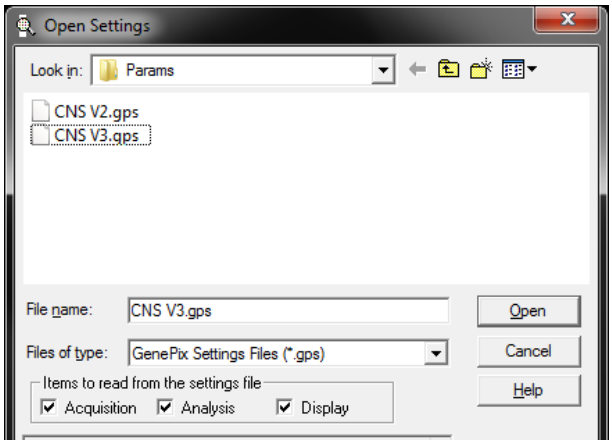


Figure 47 – Open GenePix Settings

The settings have now been updated and GenePix is ready to use.

7.11. Further Information and Technical Support

For further information or technical support, please email our Product Support team at support@elisa.co.uk.