Medical–Biological
Research & Technologies

ALA-1/4, Multi Channel Fluorometer Software Manual

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Riga, Latvia, 2012

Version: 2

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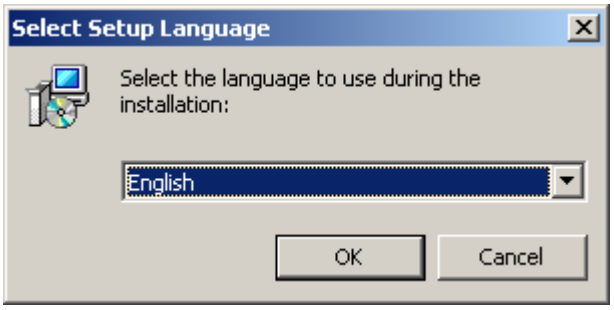
Getting Started:

Software Installation

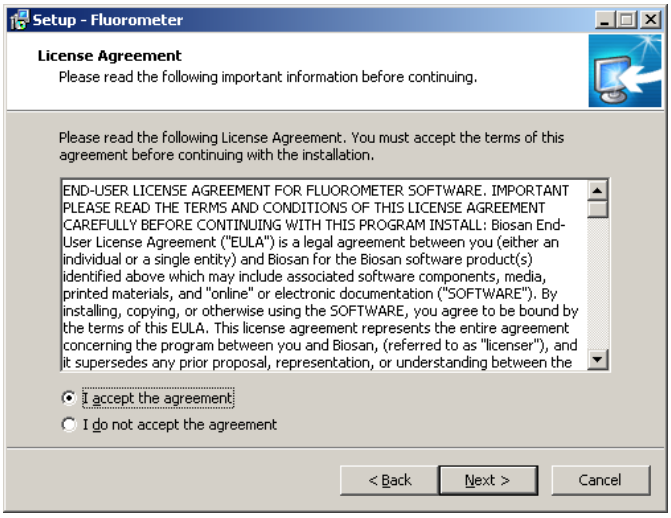
1. Turn on ALA-1/4 and connect it to your computer
2. Open SetupFEP.exe

3. Chose the setup language

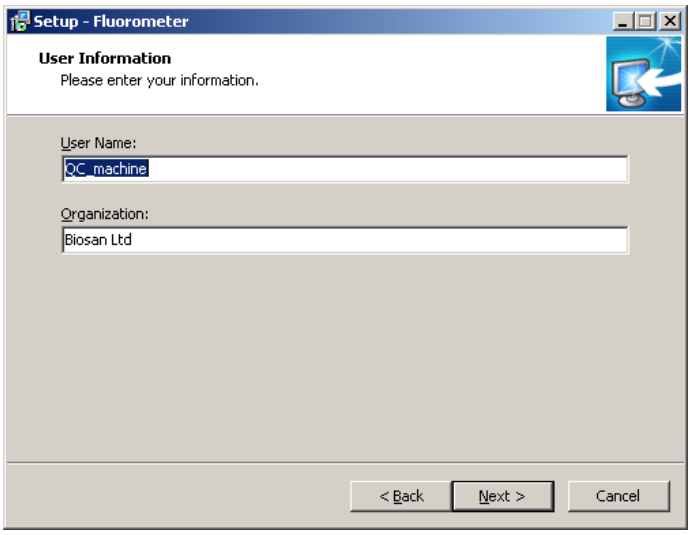


4. In the Setup Wizard click **Next**, to start installation

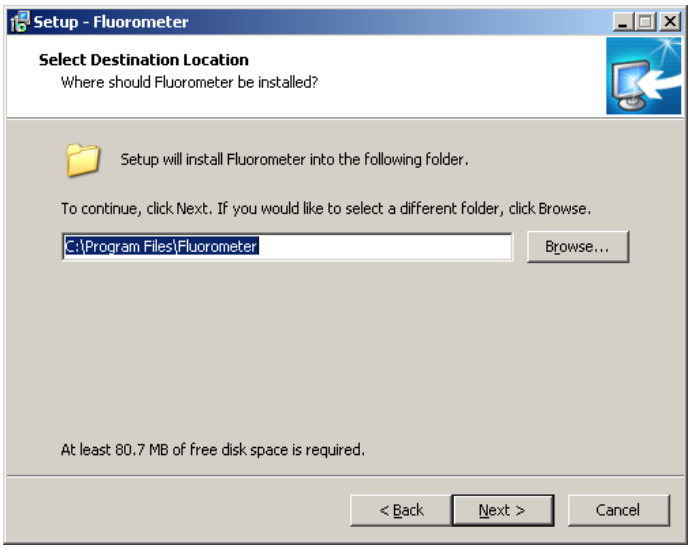
5. Read and accept the **License Agreement**



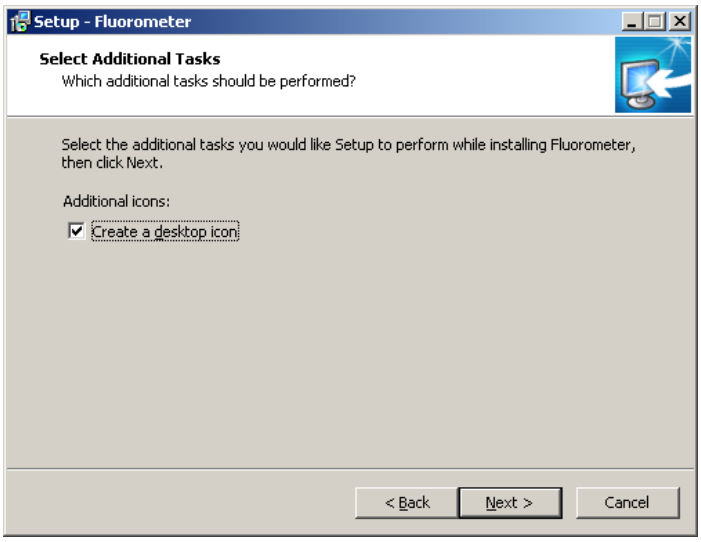
6. Enter the **Username** and **Organization** name



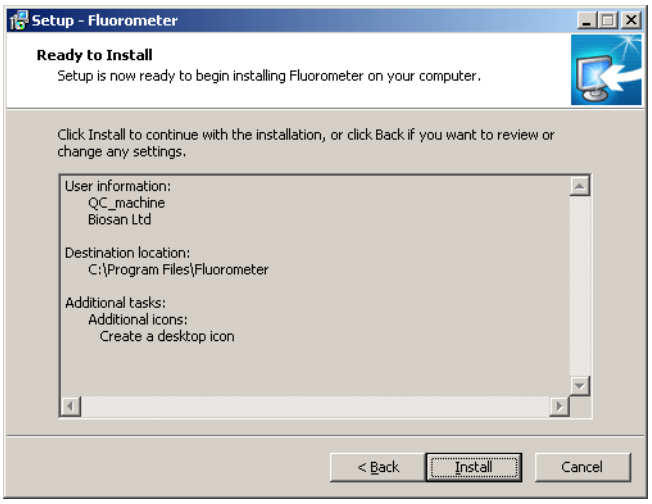
7. It is recommended to use default destination folder and click **Next** to see next window



8. Actual window offers to create a desktop icon. It is possible to refuse creating by removing tick **"Create a desktop icon"**

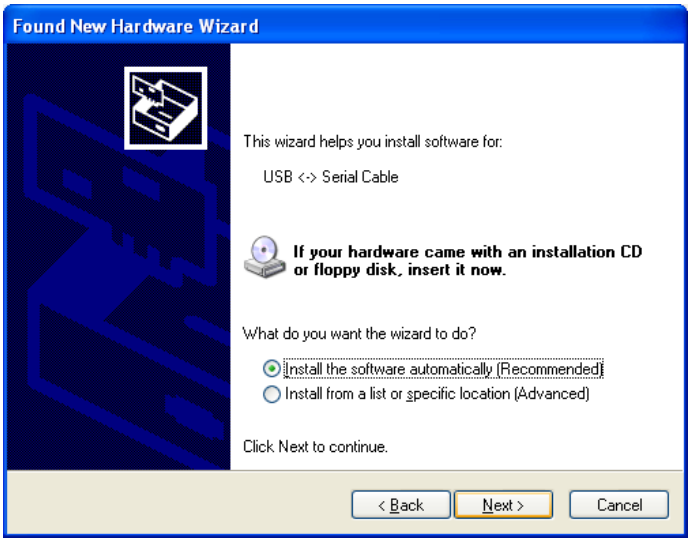


9. Please, check settings and click **Install**. If it is necessary to change some previous settings, click **Back**



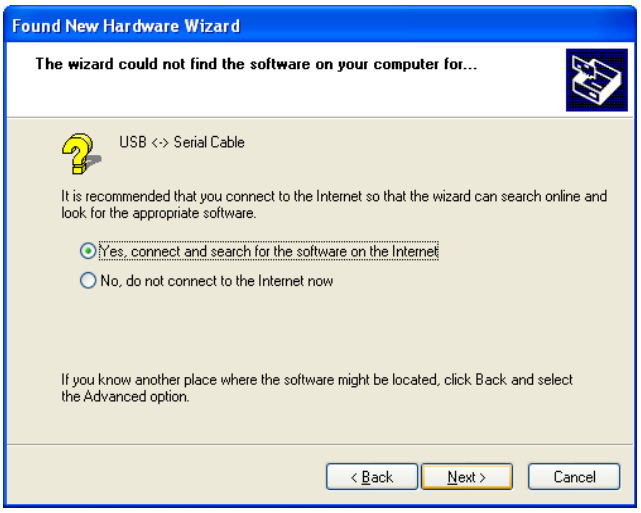
10. After device is connected to the PC and switched on: Found New Hardware Wizard window will appear. Chose **"Yes, this time only"**and press **Next** to proceed

11. Then choose **"Install the software automatically"** and press **Next** to proceed.



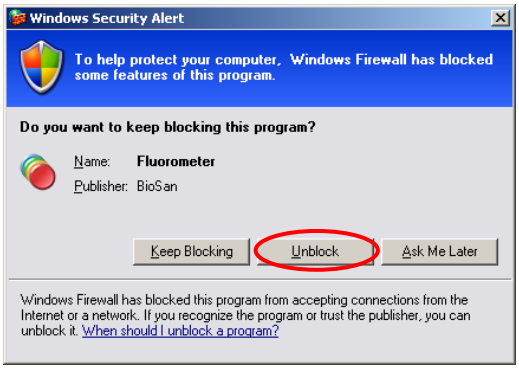
If you do not have internet connection choose to install from specific location. Choose the folder where you have installed the software.

12. Then choose **"Yes, connect and search for software on the Internet"** and click **Next**, to start installation



13. Upon finishing driver installation press **Finish**

14. Run the program for the first time: If Windows firewall blocks Fluorometer and NASBA DRV programs click **unblock**



15. If there are any problems during installation, then contact your system administrator

Connection settings between PC and ALA-1/4

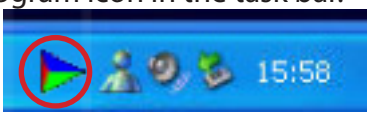
1. Before running the program it is recommended to check connection settings

   1.1 Connect unit to the PC with a USB cable

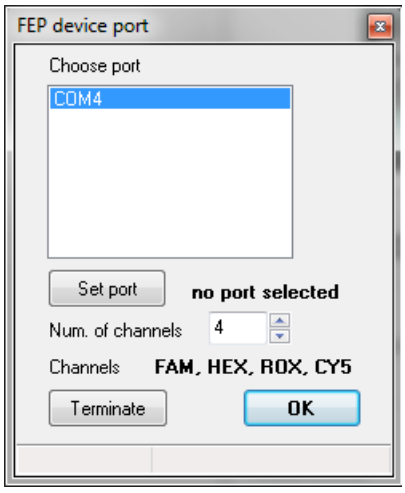
   1.2 Connect unit to the power supply

   1.3 Switch on the Power switch on the rear of the unit

2. Open the program NASBA DRV by double clicking mouse on the program icon in the task bar.

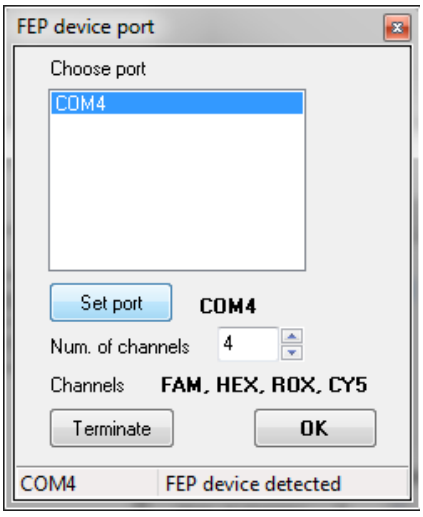


3. Options window for the ALA 1/4 unit



4. Press Set Port, if FEP device detected will show on the bottom of the window, your ALA-1/4 is successfully connected to the PC, if not, then try any other available ports.

Parameters	**ALA-1/4 settings**
Serial port	Virtual (COM from 3 to7)
Number of channels	4 (FAM, HEX, ROX, CY5)



5. After parameters have been set click **OK** to close "Serial Port Setup" window and press **OK** button

Note: Software will not work if NASBA DRV is closed!

Before measuring

1. After successful installation of software and driver, setting of connection of unit with computer check connection with computer through USB cable.
2. Switch on the unit on the rear side of the unit. After switching on the display readouts are following: ALA_1 V 4.0

Note: Before detection the unit must be warmed for 15 min after switching on.

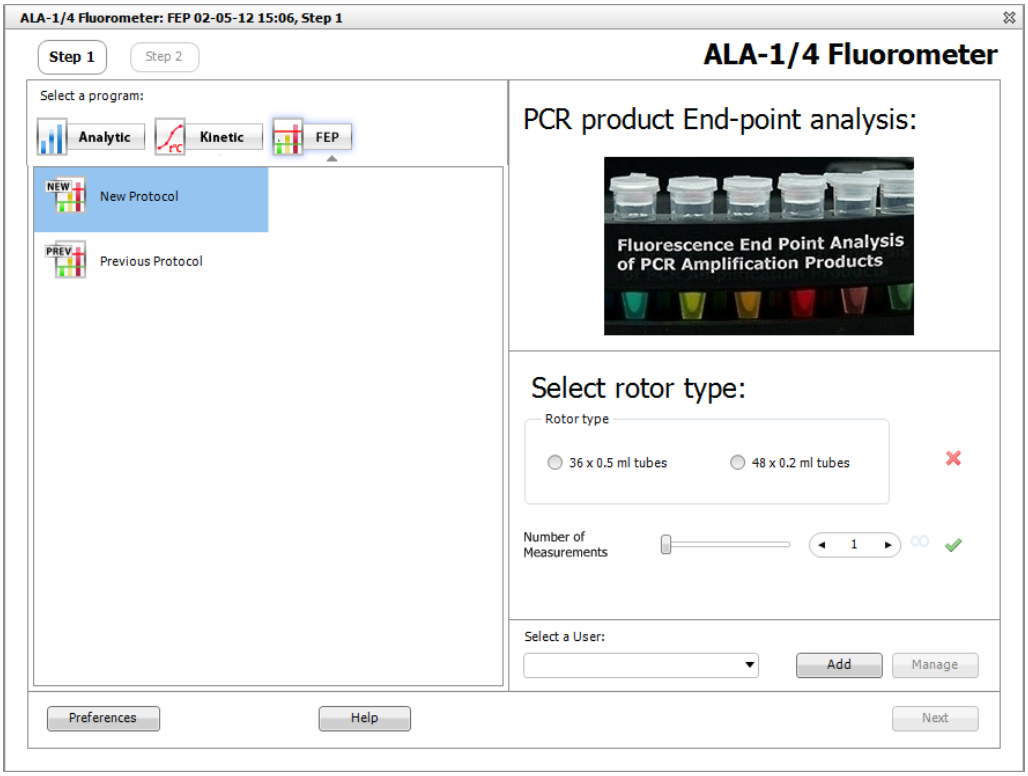
Note: If the unit was not used for more than 7 days, it must be warmed for 8 hours.

3. Test measurement must be performed for reliable connection evaluation between unit and computer. It can be performed with prearranged test measurement tubes, empty tubes, or even with the empty rotor. It
4. Before the measurement read carefully point User's manual, then set the measurement and sample parameters according to the given instructions.
5. Check the Fluorometer status in the left lower part of the program window, the status must be: **Connected**
   If status is **Not Connected** — there are some problems in communication between PC and external unit, see **Software Installation** (page 1).

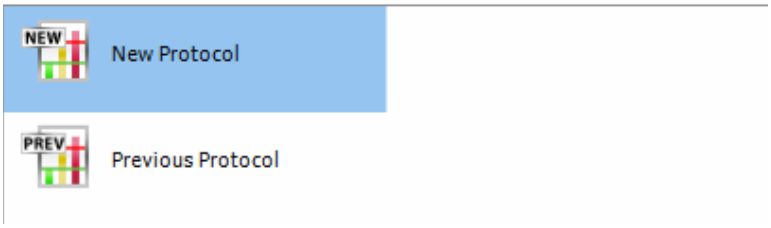
Software Operation Manual: End-point analysis of PCR products (FEP)

1. Turn on the ALA-1/4, check the connection between the computer and the ALA-1/4, and launch **"FEP" program**

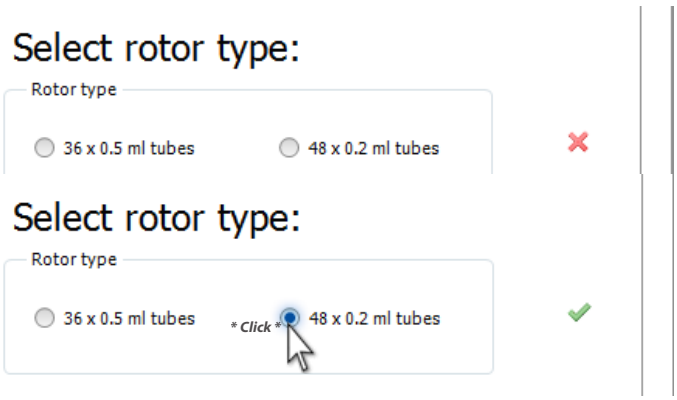
2. The **Step 1** window: Setting Measurements parameters will appear



3. Chose **New Run** from the program list

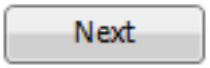


4. Then select the rotor type



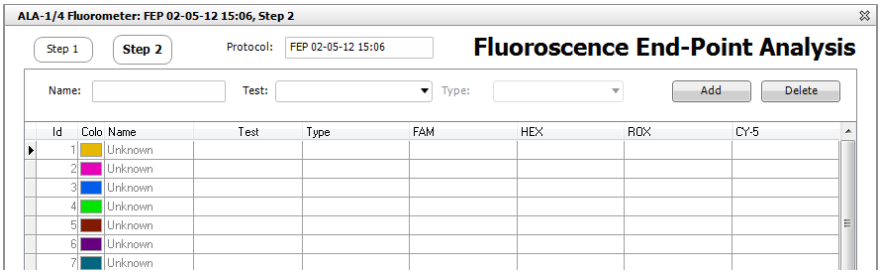
5. Optionally you can set number of measurements (we advise to put at least 2)

6. After all the parameters are set click **Next** button to go to Step 2: Setting Samples



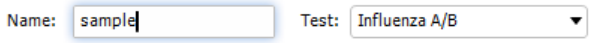
7. In the **Step 2 "Samples window"** fill in samples name, test and type.

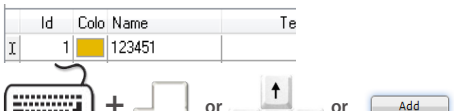
Not Filled

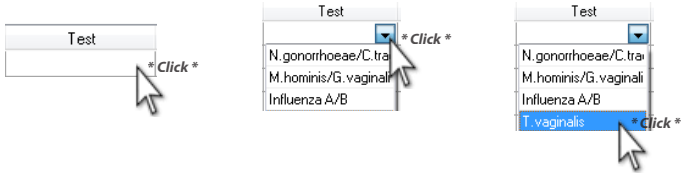


Adding multiple samples:

Type in the Name or select Test field, press Add button.







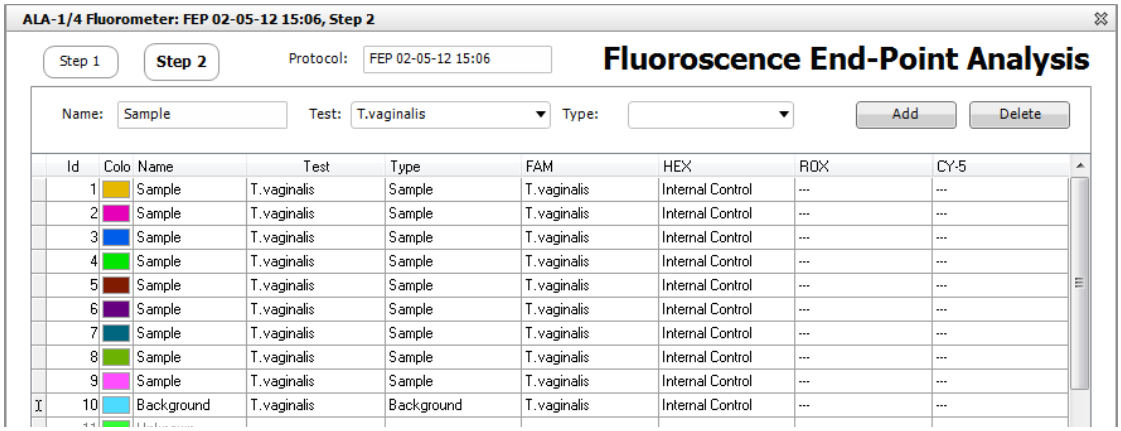
Adding a single sample

By selecting and typing in sample's name, selecting the needed test and giving type of the sample (by default type is "Sample")

Deleting sample/multiple samples:

1. By holding down left mouse button and moving it across the fields you want to select, then pressing **Delete** button.
2. Pressing **Discard All Setting** button.
   Note: this command will delete all added samples information.

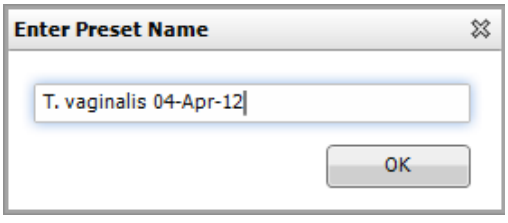
Filled



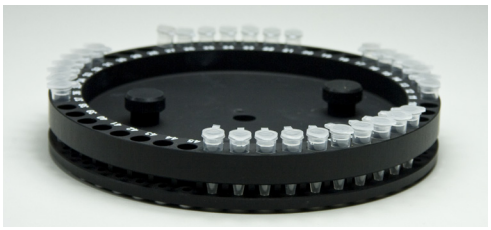
Note: In order to proceed to measurement step, at least one background sample must be set!

To save the protocol for future use press 

enter the name and press OK.

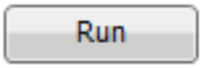


8. Place samples in the rotor

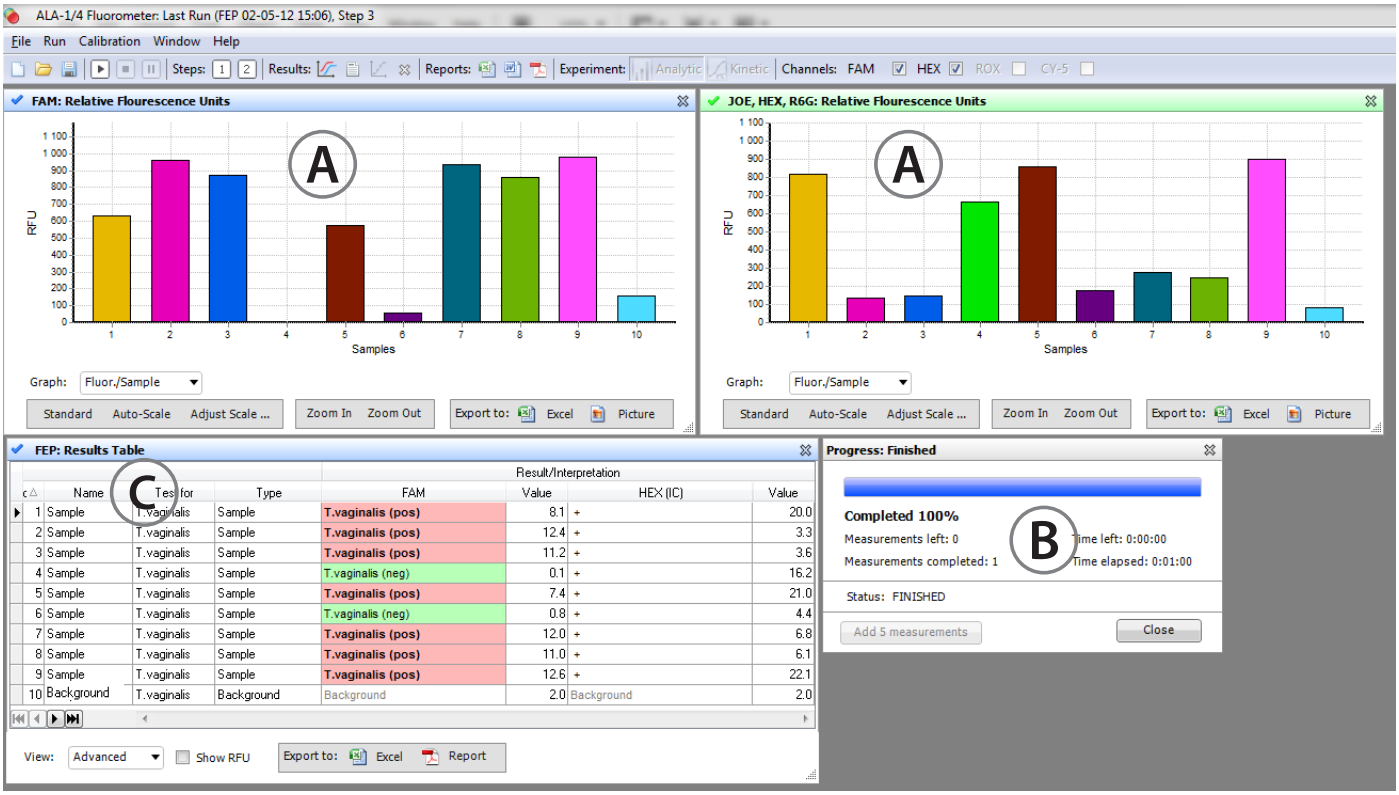


9. Close ALA-1/4 lid

10. Press **Run** to start measurement



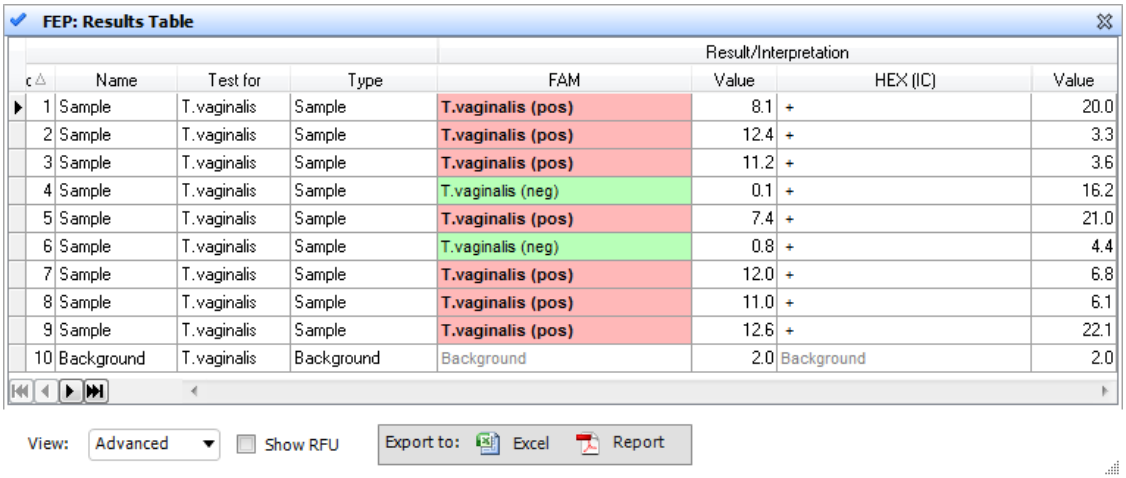
Results will be ready in a couple of minutes (from 30 sec to 2 min):
Results can be viewed only after measurements



A. Fluorescence Signal on channels FAM and HEX

B. Progress window

C. Results window:



Saving the results:

10.1 In the program: press **Save button** in the toolbar 

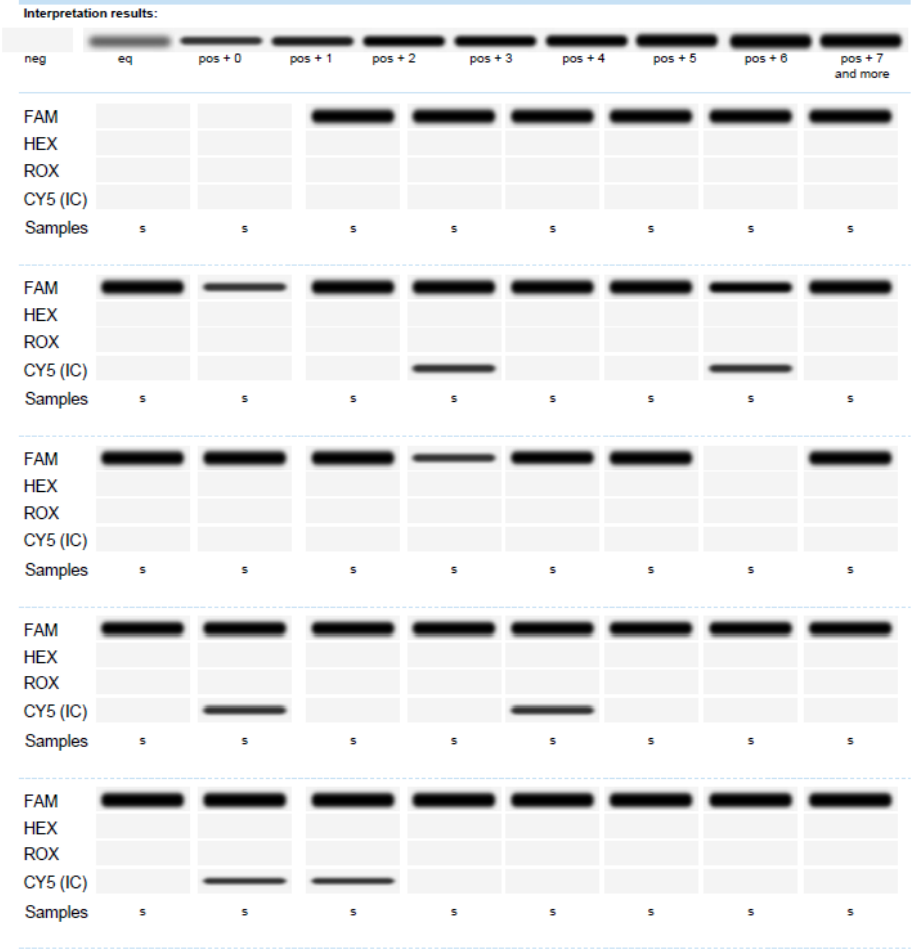
10.2 Save as a PDF report: press **Report** button in the Results Table control panel or choose **PDF report** in the toolbar . The report can also be printed. When the button is clicked the report is automatically saved in FEP/Protocols folder

Results Table, Advanced View: FEP 02-05-12 15:06

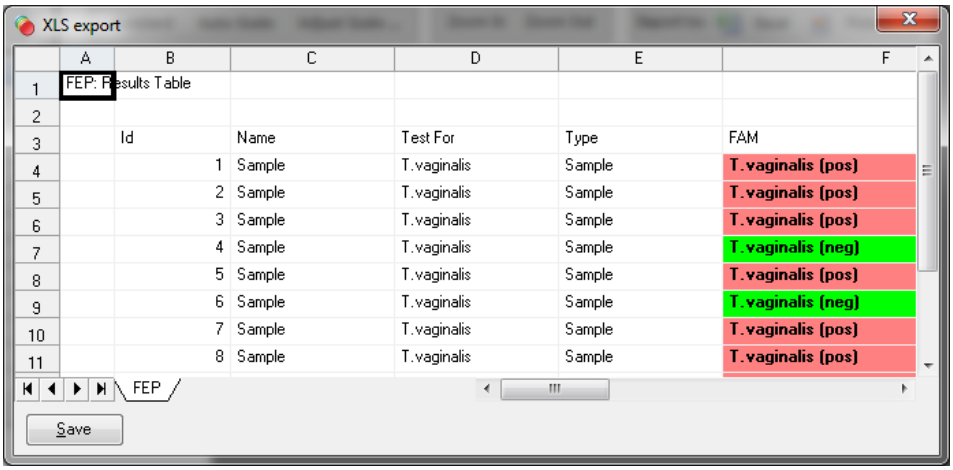
Id	Name	Test for	Type	Result/ Interpretation							
				FAM		HEX		ROX		CY5	
1	Sample	T.vaginalis	Sample	T.vaginalis (pos)	8.1	+	20	---	0	---	0
2	Sample	T.vaginalis	Sample	T.vaginalis (pos)	12.4	+	3.3	---	0	---	0
3	Sample	T.vaginalis	Sample	T.vaginalis (pos)	11.2	+	3.6	---	0	---	0
4	Sample	T.vaginalis	Sample	T.vaginalis (neg)	0.1	+	16.2	---	0	---	0
5	Sample	T.vaginalis	Sample	T.vaginalis (pos)	7.4	+	21	---	0	---	0
6	Sample	T.vaginalis	Sample	T.vaginalis (neg)	0.8	+	4.4	---	0	---	0
7	Sample	T.vaginalis	Sample	T.vaginalis (pos)	12	+	6.8	---	0	---	0
8	Sample	T.vaginalis	Sample	T.vaginalis (pos)	11	+	6.1	---	0	---	0
9	Sample	T.vaginalis	Sample	T.vaginalis (pos)	12.6	+	22.1	---	0	---	0
10	Sample	T.vaginalis	Background	Background	2	Background	2		0		0

10.3 Electrophoresis image: Scroll down the report to the last page

Electrophoresis interpretation: FEP 17-08-12 14:45

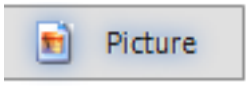


10.4 As Excel file: press **Excel** button in the Results table control panel or choose **Excel report** in the toolbar and click **Save**.



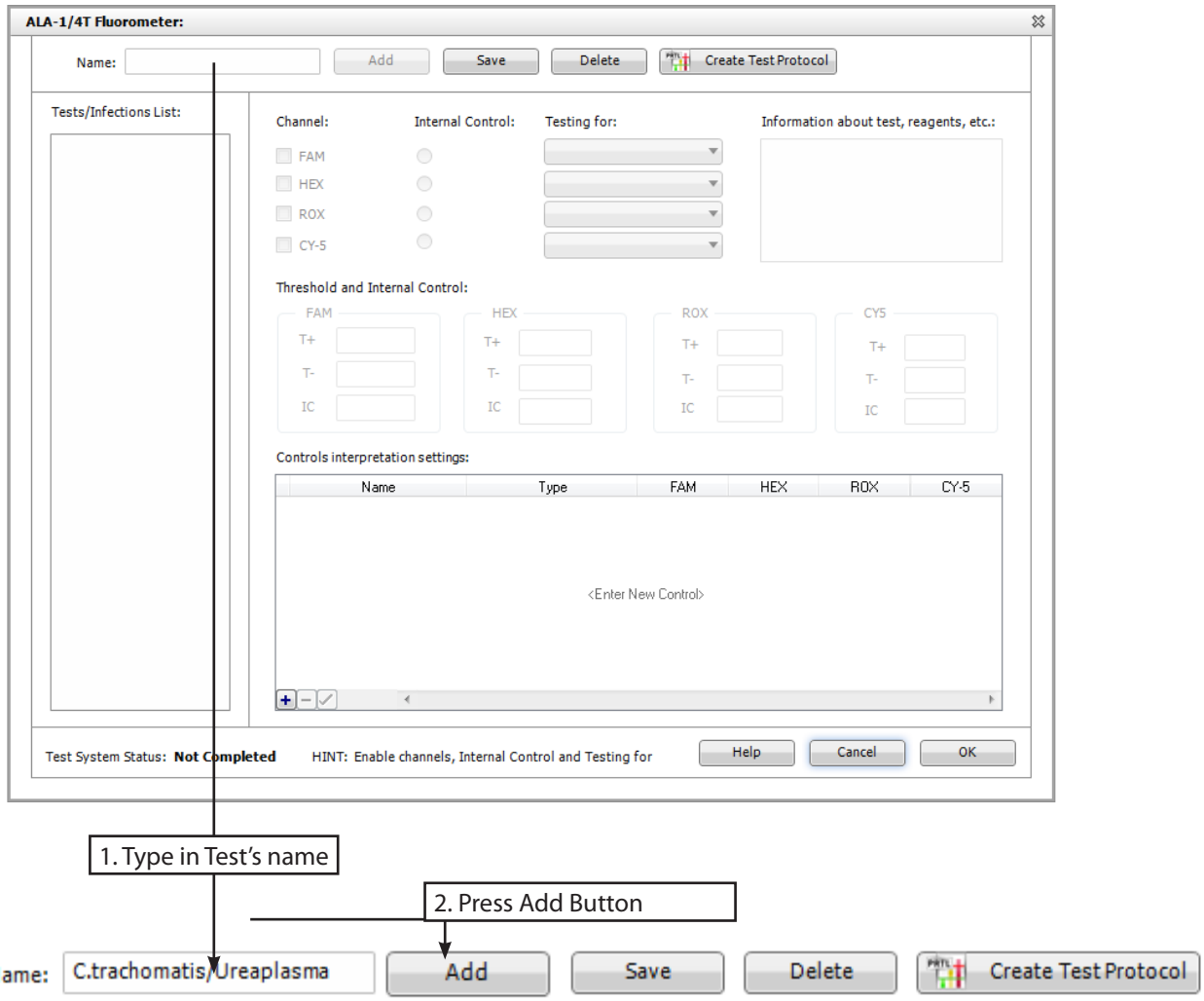
Note: you must have Microsoft Excel to save the results

10.5 As a JPG image: press **Picture** button in "Relative fluorescence units" window for the required channel and click **Save**.

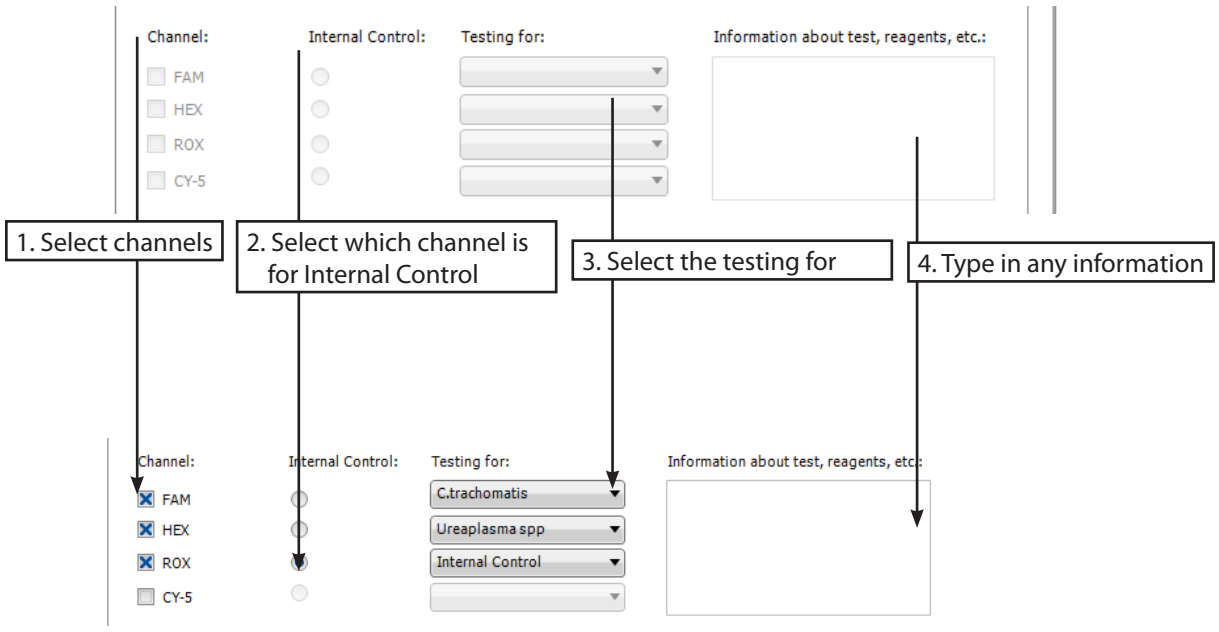


11. After finishing using **ALA-1/4 fluorometer** clo se the software.

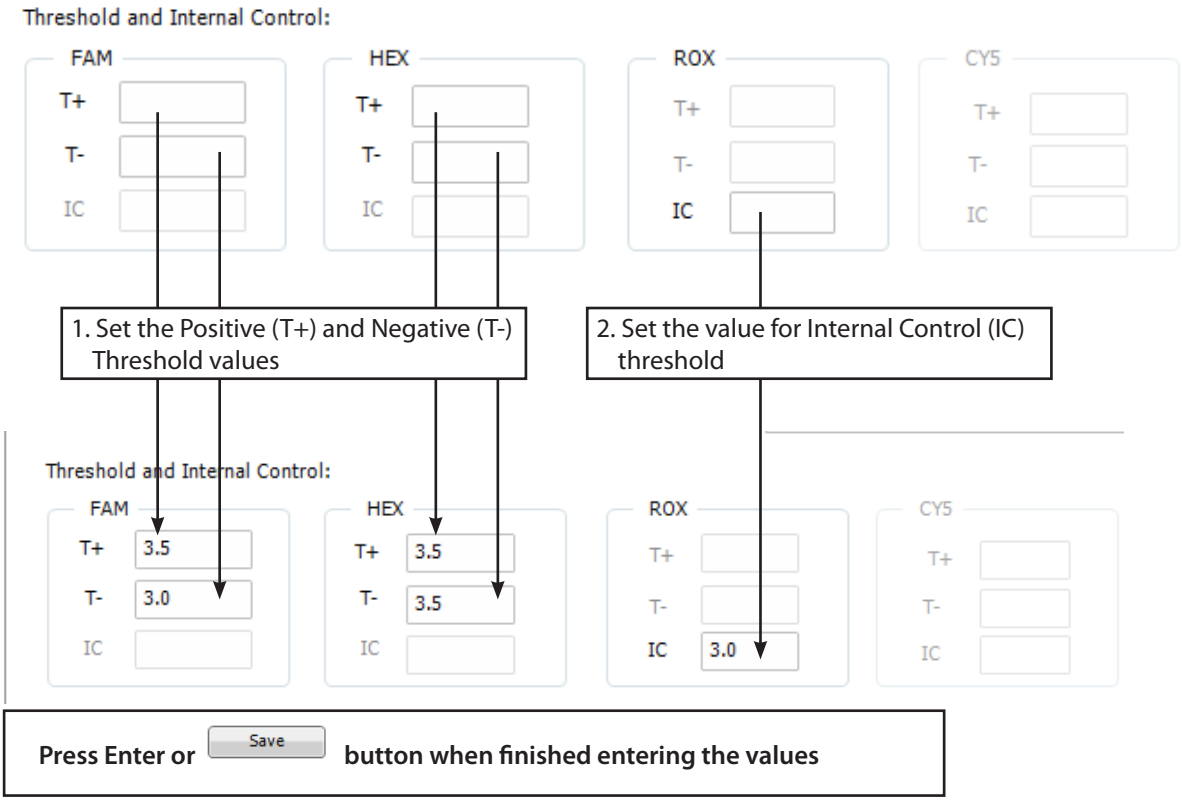
Software Operation Manual: How to add a test



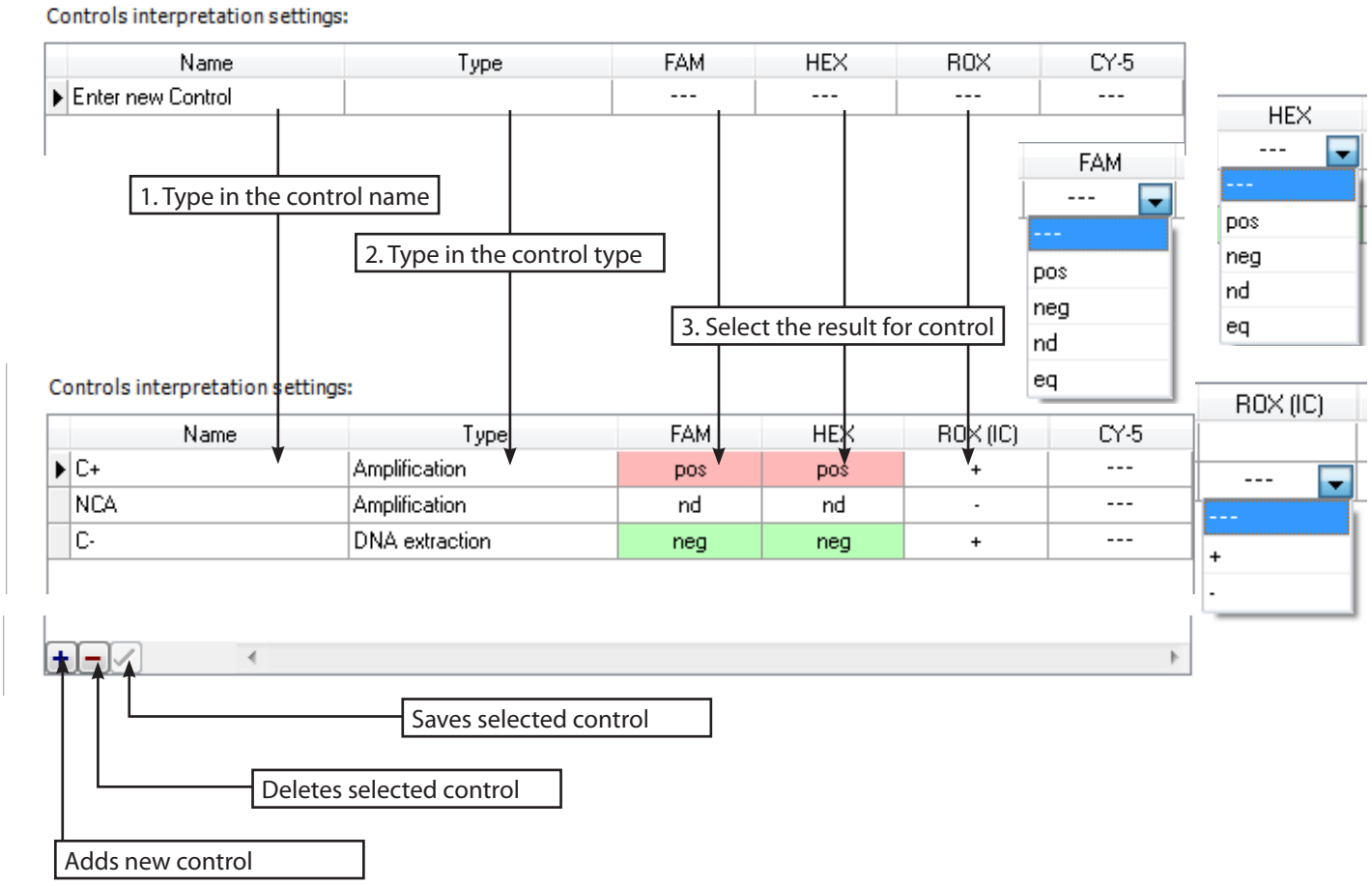
Select the channels



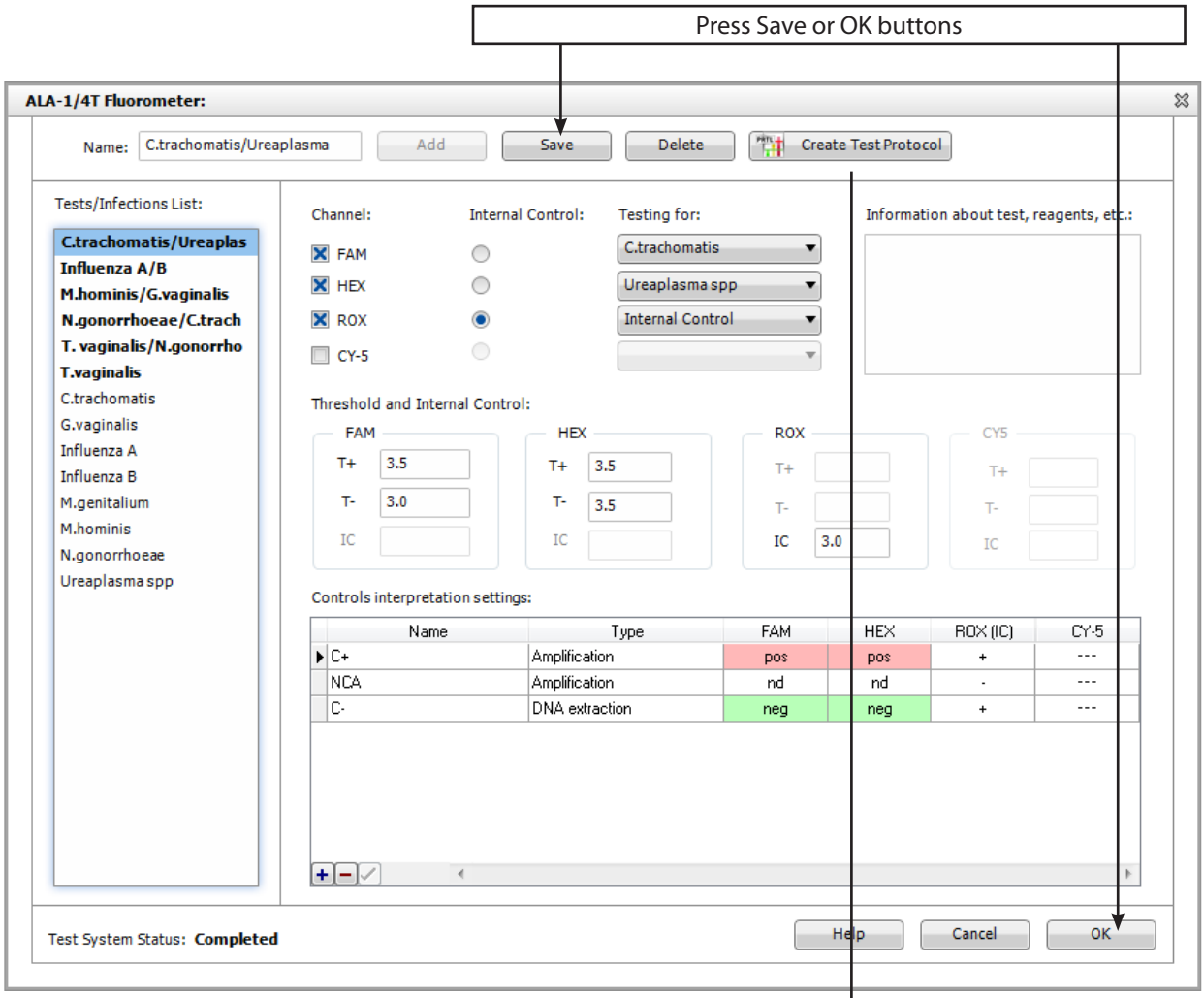
Set the positive and negative threshold levels



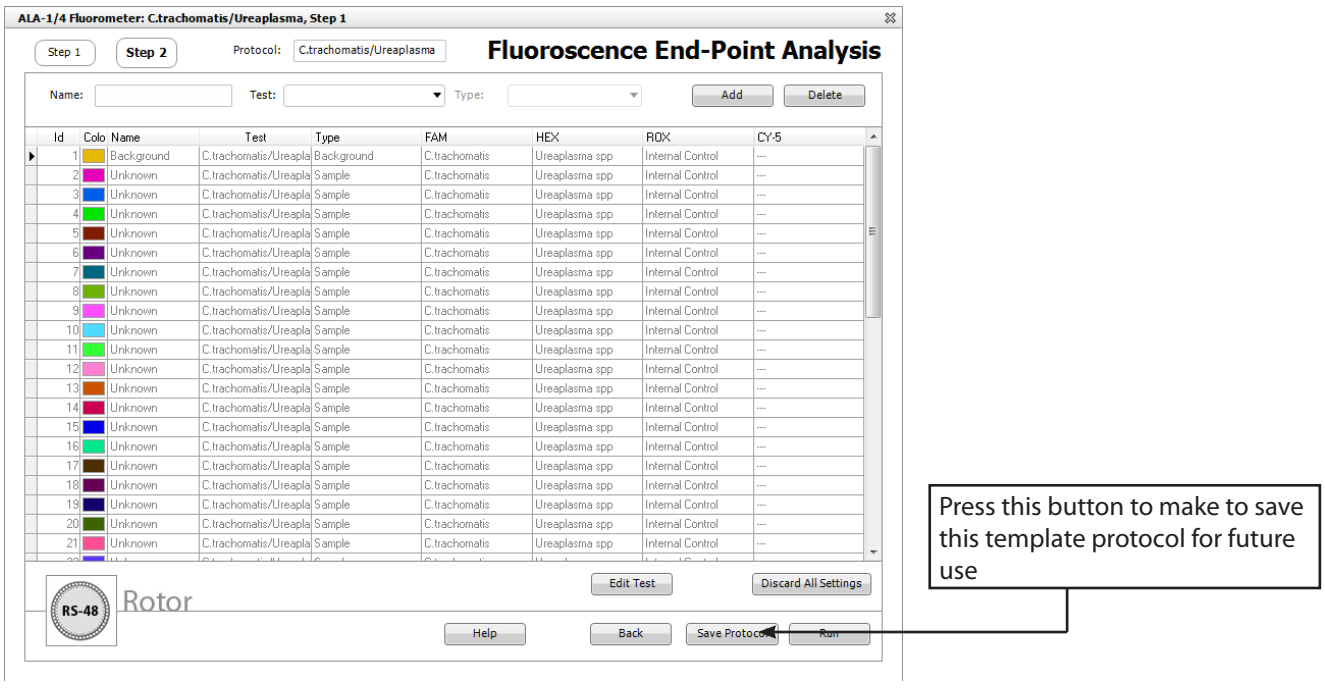
Set the controls (optional)



Save the test



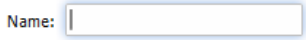
Save your time



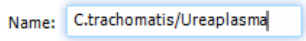
3.4.1-f — Adding/Saving/Deleting a test

Description:
Commands for Adding/Saving/Deleting a test

Empty

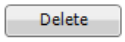


Filled



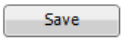
3.4.1.1-f — Test name field

Description:
Text field for naming tests or infections.



3.4.1.3-f — Delete test button

Description:
Button deletes selected test.



3.4.1.4-f — Save test changes button

Description:
Button saves changes made to an existing test.

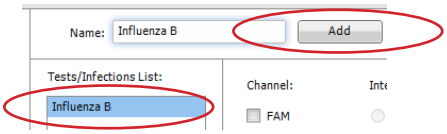
3.4.1.4-f — Create Test Protocol

Description:
Button creates a template in Step 2 for a test selected in Tests infections List.

3.4.1.2-f — Add new test button

Description:
Button adds a new test with name entered in 3.4.1.1-f — Test name field

New Test was added

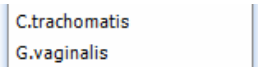


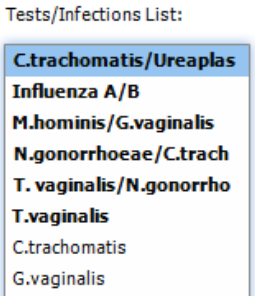
3.4.2-f — Tests/Infections list

Description:
List of Tests/Infections available for testing.
Completed tests are indicated with Bold font

Not completed tests are indicated with regular font.

Not completed tests can be used as a test names for a MultiPlex test.



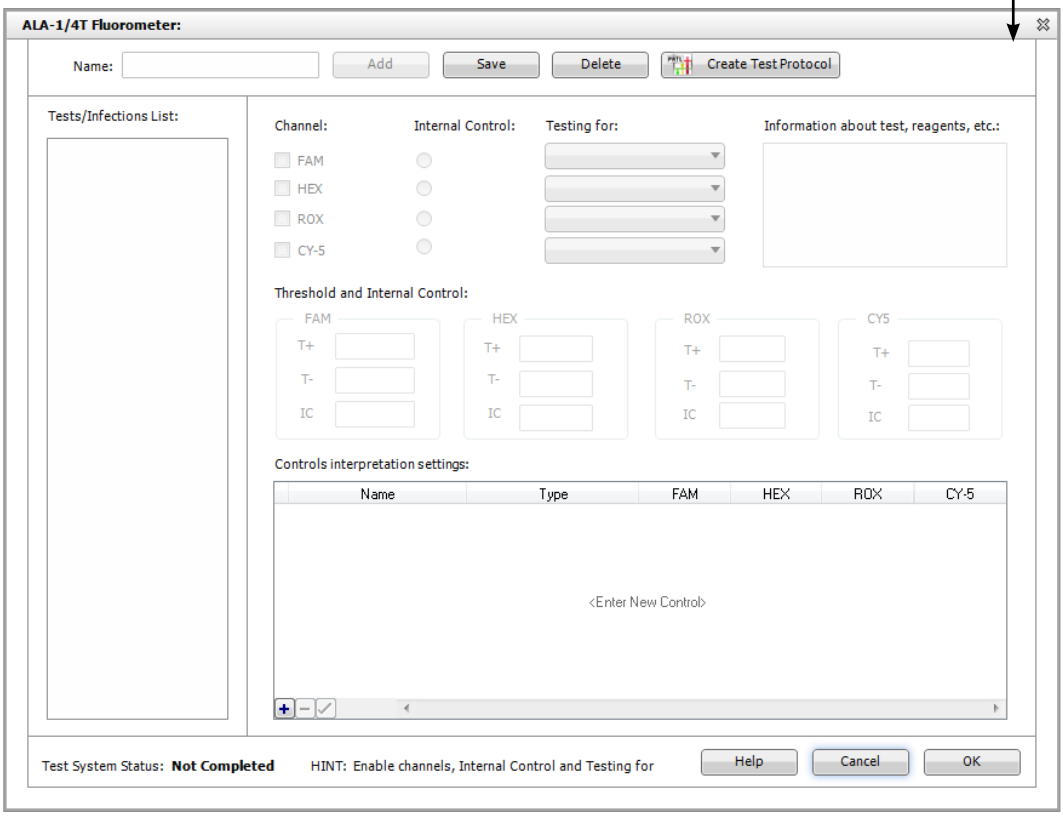


3.4-f — Tests Editor Window

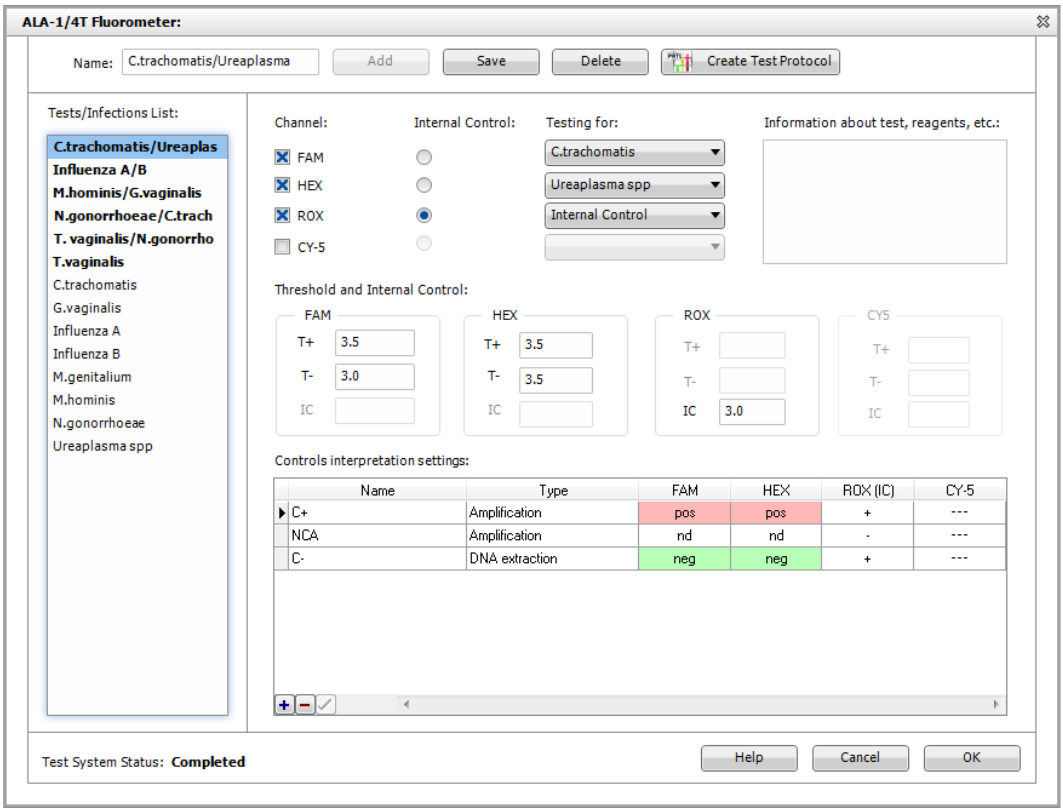
Description:

In this windows user Adds/Edits/Deletes Tests

Tests Database is empty



Tests database is filled with 6 tests.

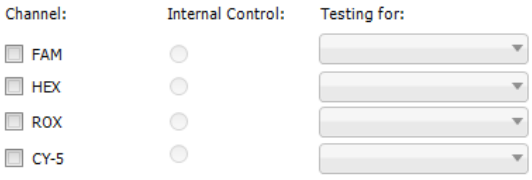


3.4.3-f — Channel Options

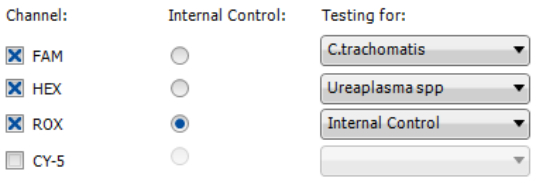
Description:

Setting the measurement channels.
If a channel is going to be used as Internal Control (if needed).
What illness is going to be tested on a channel.

Not completed



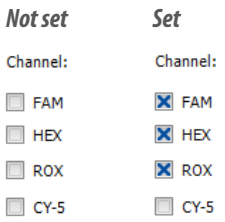
Completed



3.4.3.1-f — Channel Selection

Description:

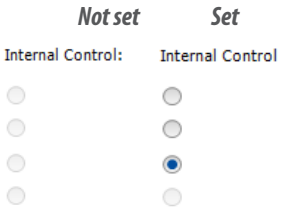
User sets the channels on which measurements are going to be performed



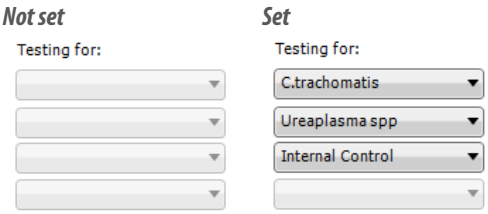
3.4.3.2-f — Internal Control Channel

Description:

User sets the internal control channel if needed

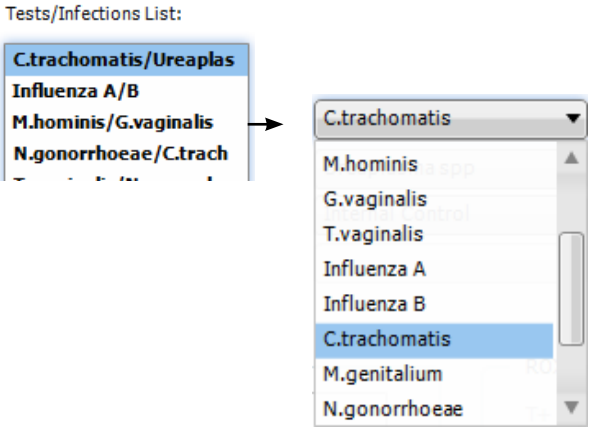


3.4.3.3-f — Test Selection



Description:

User selects which test from 3.4.2-f — Tests/Infections list to be performed on a specific channel



3.4.4-f — Information Window

Description:

User can type in any information about tests, reagents used, etc.

3.4.4-f — Threshold and Internal Control Parameters

Description:

User sets the coefficients provided in reagents manual for specific channels.

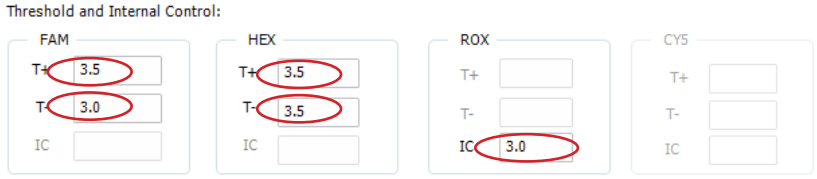
If the channel is used for Internal Control, then

IC 1 threshold level is available.

If the channel is used for infections T+ T- 2 threshold levels are available.

Not set

Set



IC

3.4.4.1-f — Internal Control Threshold level (IC)

Description:

Internal Control Threshold level

T+

3.4.4.2-f — Positive Threshold value

Description:

Positive Threshold level for Two Threshold levels' tests

T+

T-

3.4.4.3-f — Negative Threshold value

Description:

Negative Threshold level for Two Threshold levels' tests

3.4.5-f — Controls settings table

Description:

Adds controls supplied with parameters taken from reagent's manual.

Empty Control's table

	Name	Type	FAM	HEX	ROX	CY-5
▶	Enter new Control		---	---	---	---

Filled Control's table

	Name	Type	FAM	HEX	ROX (IC)	CY-5
▶	C+	Amplification	pos	pos	+	---
	NCA	Amplification	nd	nd	-	---
	C-	DNA extraction	neg	neg	+	---

Default controls list

	Name
▶	C-
	PCE
	C+
	NCA
	LS3

Entering a control

3.4.5.1-f — Control's name field

Description:

User sets the name of the standards

Default controls type

Type
DNA isolation
DNA isolation
Amplification
Amplification
Amplification

3.4.5.2-f — Control's type field

Description:

Enter the type of the standards via keyboard

Default table

FAM	HEX	ROX	CY-5
---	---	---	---
---	---	---	---
---	---	---	---
---	---	---	---
---	---	---	---

Entering standard

FAM	HEX
pos	pos
nd	nd
neg	neg

3.4.5.3-f — Threshold value for controls for each channel

Description:

User sets the value for thresholds:
"+ / – " values for 3.4.4.1-f — Internal Control Threshold level (IC) (page 18) (FAM in example above).
"pos/neg/eq/nd" values for 3.4.4.2-f — Positive Threshold value (page 18) (CY-5 in example above).
Controls with value "–––"means that value is not set or channel is not used.

Entering threshold value