



**SEMIAUTOMATIC
ELECTROPHORESIS SYSTEM AES 2007
USER MANUAL**



The Hellabio AES2007 system is intended to be used for electrophoresis on Agarose gels. The System automates the most critical steps of electrophoresis to save time, to get precise results and to make electrophoresis easier and more practical.

ELECTROPHORESIS By AES2007 SYSTEM

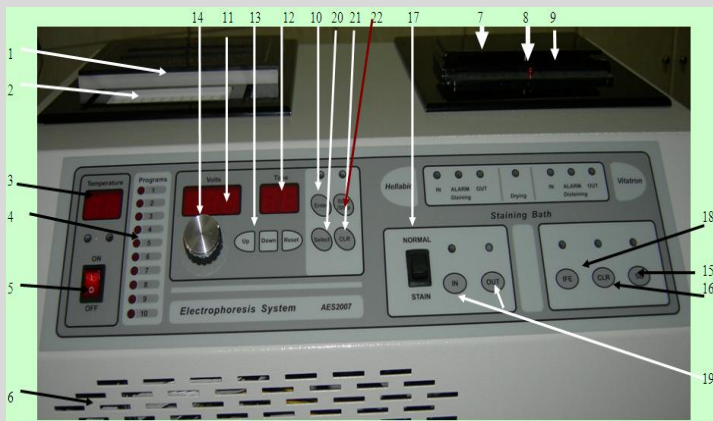
IMPORTANT NOTES:

You must:

- Be technical trained personnel to work with this system.
- Follow thoroughly the instructions.
- Do not exceed the maximum operating voltage.
- Use only distilled water to prepare working solutions.
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MENU OF BUTTONS

AES FRONT SIDE



AES BACK SIDE

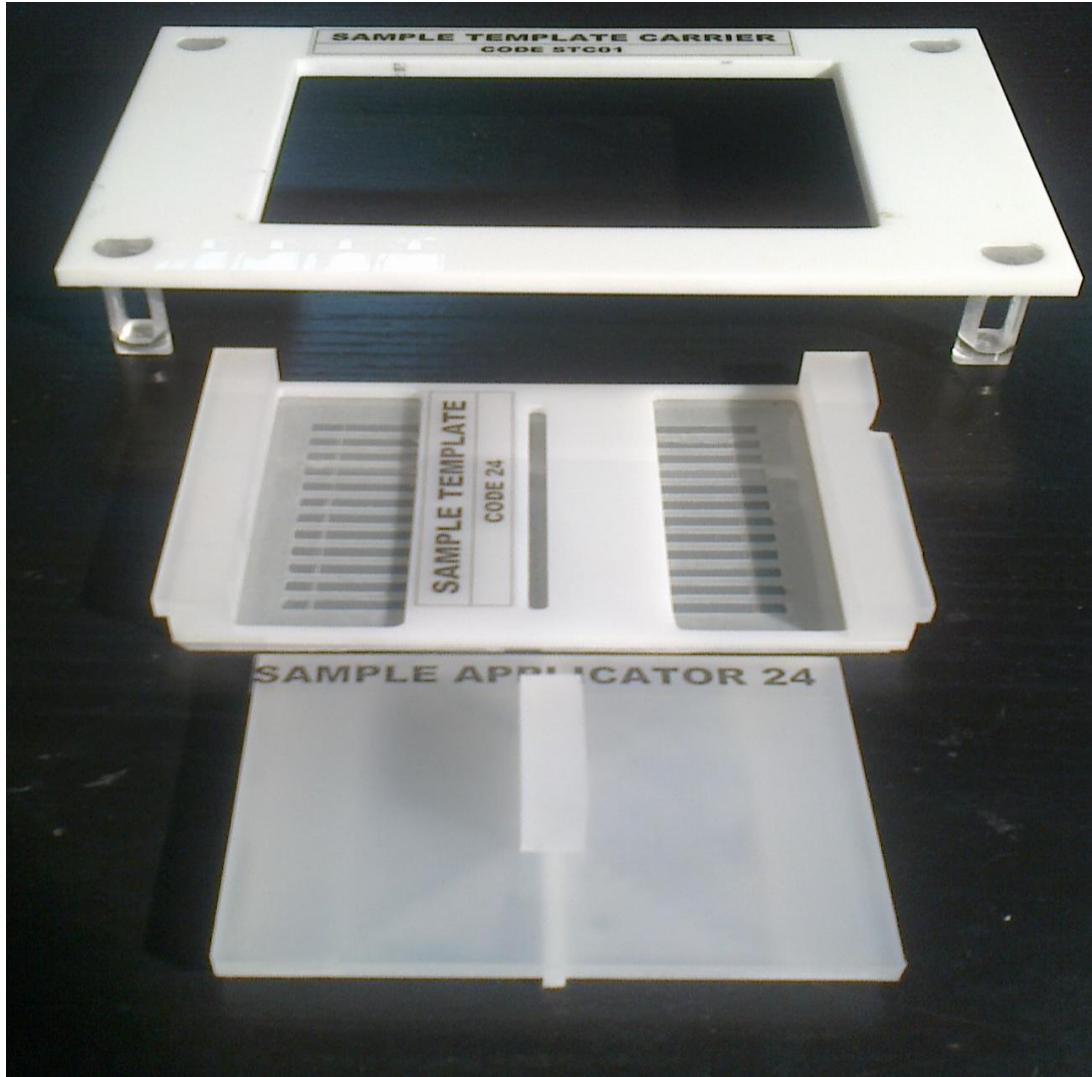


1: IN: In of distaining solution. 2: OUT: Out of waste distaining solution. 3: In and Out of staining solution

1: Electrode carrier on the Application area. 2: Sample dilution plate. 3: Temperature. 4: Electrophoresis program to select (1-10). 5: ON/OFF of the system. 6: Ventilation. 7:(-). 8: Gel carrier. 9: Staining/Distaining bath. 10: Enter (of Electrode Carrier). 11: Volts. 12: Time. 13: Up/Down of time. 14: Volt regulator. 15: Start of Staining/Distaining process. 16: Clear the former step. 17: NORMAL/STAIN BUTTON. 18: IN of Saline in case of IFE. 19: IN/OUT of Staining Solution. 20: Select program. 21: Clear previous function. 22: Start/Stop of electrophoresis

AES ACCESSORIES

Sample Application System



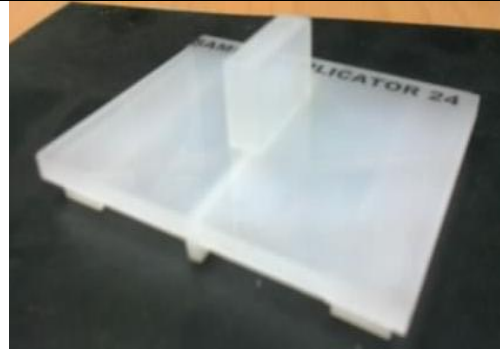
Sample Application System consists of the Sample Template carrier, the Sample template and the Sample Applicator.



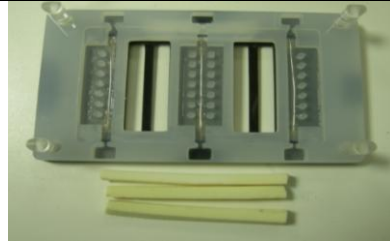
Sample Template Carrier [included in AES007 and in AEU01]



Sample template [included in AES007 and in AEU01]



Sample Applicator [included in AES007 and in AEU01]



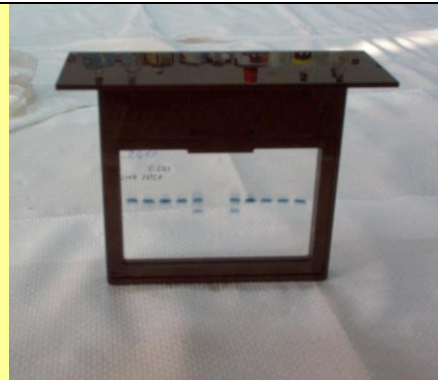
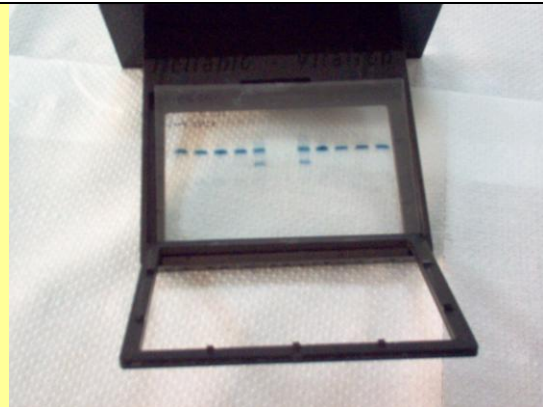
Electrode carrier [included in AES007 and in AEU01] and **Buffer Sponges**



Buffer sponges [included in KIT for AES2007 and AEU01]

Sample dilution Plate[included in AES2007 and in AEU01]

Bottles for distaining solution and waste liquids[included in AES2007 and AEU02]



Gel Carrier



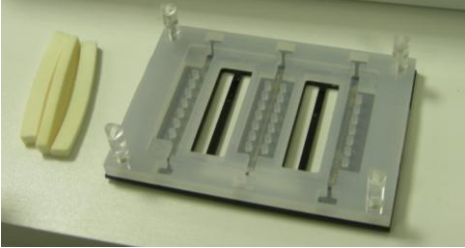


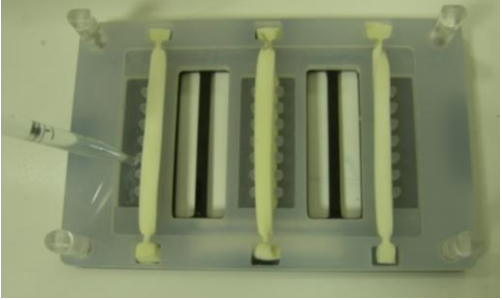


INSTALATION

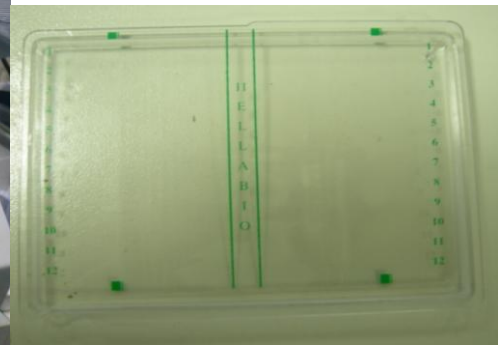
- Connect the system in electricity (220v0lts)
- Connect the tubes **IN, OUT, INK** on the back side of the system.

PREPARATION OF THE REAGENTS

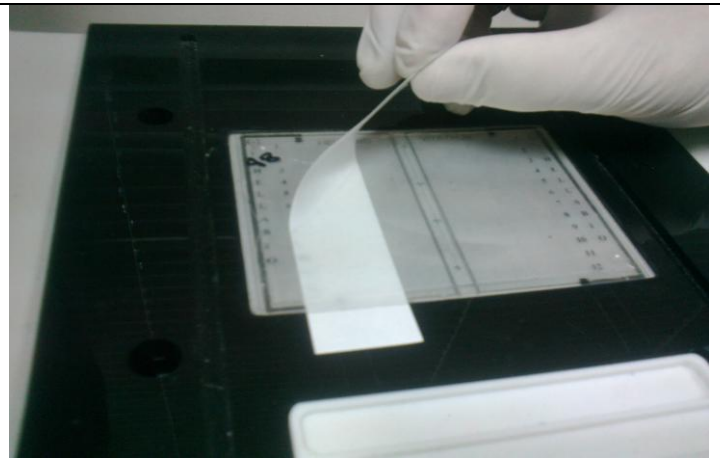
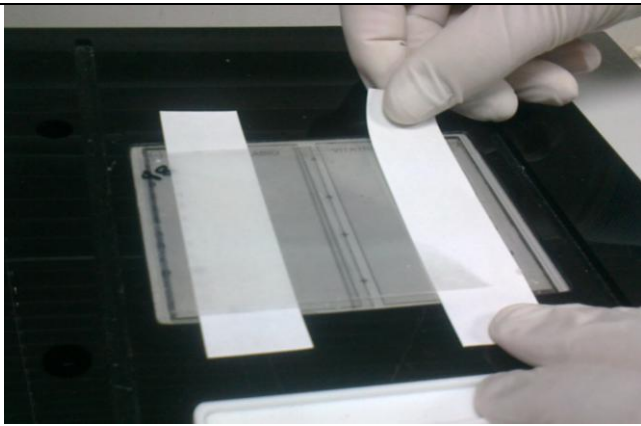
- PREPARATION OF THE BUFFER [Follow the instructions on the bottle]
- PREPARATION OF THE STAINING SOLUTION[Follow the instructions on the bottle]
- PREPARATION OF THE DISTAINING SOLUTION [Prepare 10% acetic acid solution. Add to 900 ml dest.water 100ml clasial acetic acid and mix it].

STEPS OF ELECTROPHORESIS

		
1. Turn on the system	2. The lamps of temperature,volts and time are displaying.	
		
3. Take 3 buffering sponges and the electrode carrier and adjust the sponges on the electrode carrier.		
		
4. Add to each sponge 6ml buffer and let it 2-3 minutes to be absorbed	5. Prepare the samples dilution.	6. Add 200ml dest water on the electrophoresis area



7. Cut the envelop and carefully take out the plate with the gel, carefully uncover it and put it on the electroporesis area

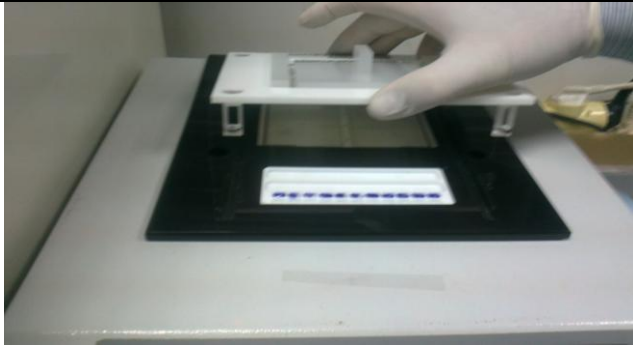


8. Blot the gel on the sample application area with gel blotter strips and discard the strips

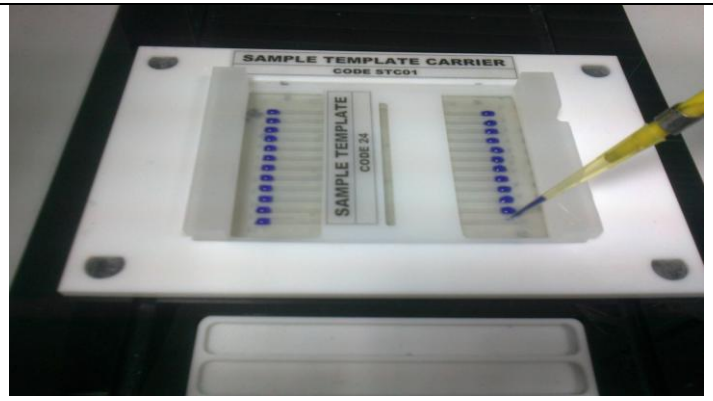
The total Application time is less than 2 minutes.



9. Adjust the Sample Template on the carrier

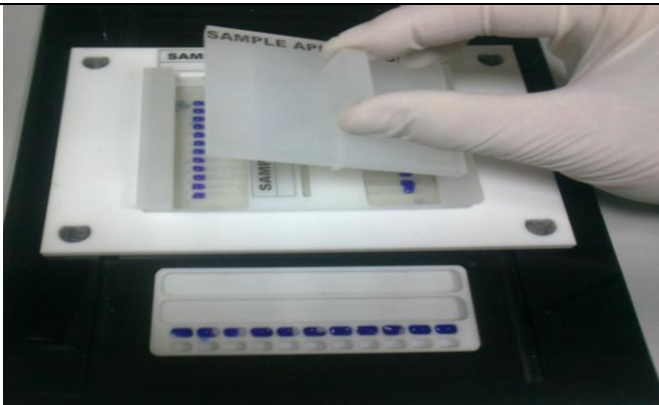


10. Apply the Carrier+Sample Template on the electrophoresis area and press enter



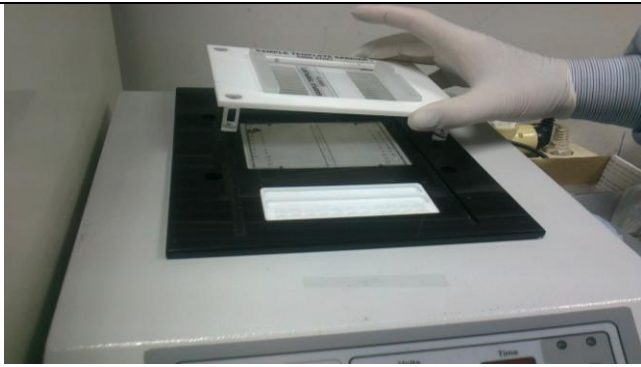
11. Gently press with forefinger the sample template and...

12...apply the samples on the corner of the basin, near the slits.

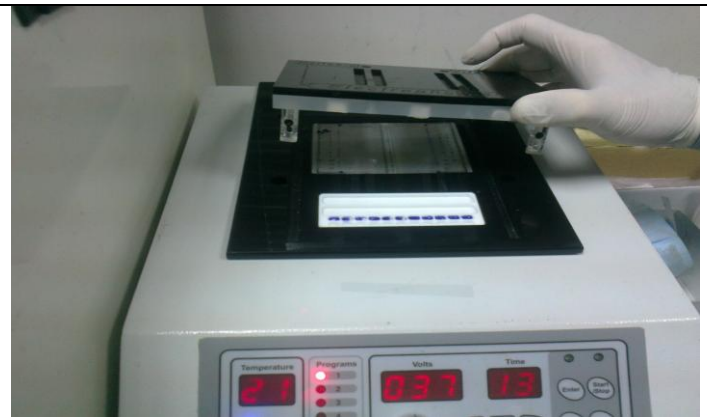


13 .Adjust the sample applicator on the sample template and

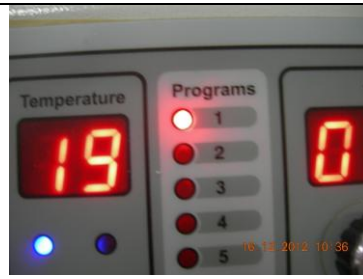
14....in 1 minute press Clear



15. Remove the carrier+template+ applicator



16. Apply the electrode carrier+sponges on the electrophoresis area.



17. Select program:

Prog.	Time/min.	Volts	Electrophoresis of	Prog.	Time/min	Volts	Electrophoresis of
1	13	100	Proteins	6	16	120	To choose
2	15	180	Hemoglobin's in alkali	7	17	120	To choose
3	13	110	Lipoproteins	8	13	100	Immunofixation
4	14	100	Hemoglobin's in acid	9	13	110	Immunofixation
5	15	100	To choose	10	Manual	Manual	To choose



18. Press ENTER.....



19...and control the correct position of the electrode carrier



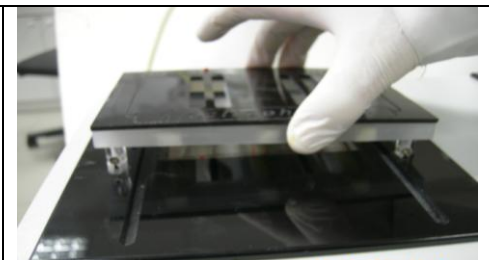
20. According to the selected program the volts and time are displaying.



21. Press START



22. The red lamps on the electrode carrier are blinking



23. At the end of electrophoresis the electrode carrier steps upstairs and it clicks. Remove the electrode carrier.

TAKE ATTENTION: Automatically starts the drying of the gel. You have to decide the way of staining.

In case of Immunofixation see section IMMUNOFIXATION.

During the electrophoresis you have to decide the staining way and go to prepare the steps (see staining Process I or II).

The staining of the gel can be done:

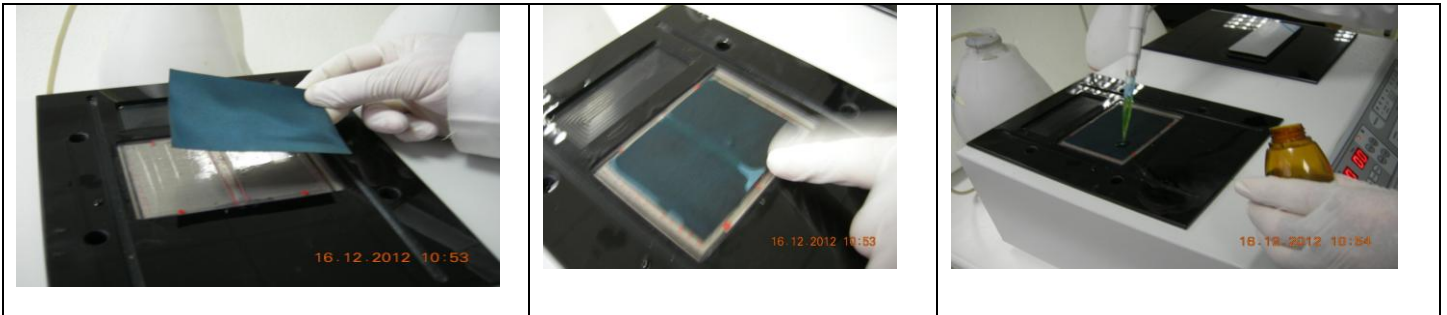
1. By using ready to use **staining sheets** during the drying of the gel, or
2. By using of staining solution in the staining- distaining bath.

By the first case (using staining sheets) you save the staining time because the staining occurs on the same time with drying and there is no need to use staining solution.

STAINING PROCESS

I. STAINING PROCESS by using ready to use staining sheets:

1. Immediately after electrophoresis and as soon as the electrode carrier steps upstairs....



2. ... remove the electrode carrier, apply one staining sheet on the gel, slightly press it by forefinger and add on it 2.5 ml stabilizing solution.

3. During the drying + staining process:

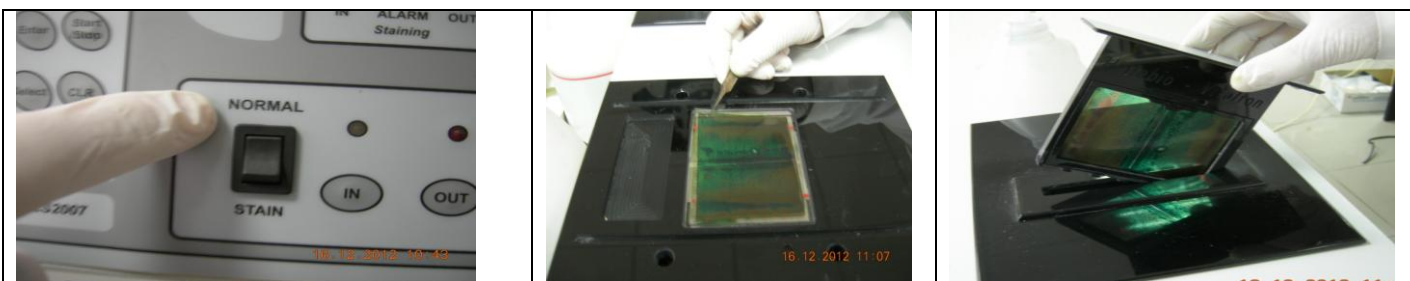


- 3a) Control the Waste bottle to be empty.

- 3b) Control that the Distaining bottle contains enough solution (10% Acetic acid).

- 3c) Change NORMAL/STAIN button in STAIN. The green lamp is displaying.

4. Press IN. Distaining solution enters in the tank [it is inside of the system]; as soon as it is fulfilled it clinks. This distaining solution will be reused in each case and must be discarded after 10 electrophoresis [see point...]



5. Return NORMAL/STAIN button in NORMAL.

6. After 8 minutes remove the staining sheet and let the gel drying. At the end of the process it clinks.

7. Take the dried gel, adjust it on the Film carrier and put it in the distaining bath.



8. Press CLEAR and...



9. ...then Press Button SB. Automatically the gel will be washed, dried and will be ready for analysis



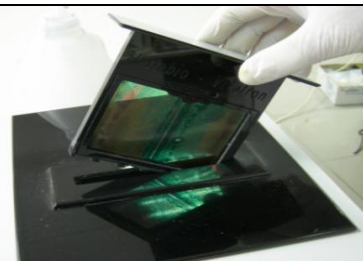
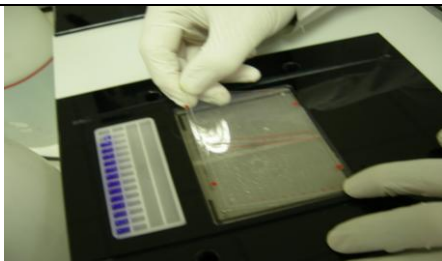
ii. STAINING PROCESS by using staining solution:



1. During the gel is drying Turn NORMA/STAIN button in STAIN, put the INK tube in the staining solution and press IN. The staining solution enters in the tank [inside of the system]. As soon as it is fulfilled it clicks



2. Return the NORMA/STAIN button in NORMAL. The staining solution is in the tank (inside of the system) and is enough to stain 10 gels. To discard it see point...



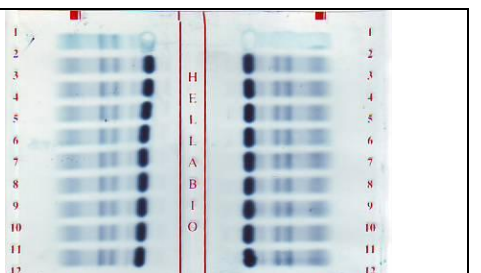
3. After electrophoresis, point 23, and after the end of drying process it clicks. Take the gel and adjust it on the Film carrier and insert it in the staining distaining bath.



4. Press CLEAR and...



5. ...then Press Button SB. Automatically the gel will be washed, dried and will be ready for analysis



How to discard and renew the staining and or distaining solution from the tank

1. In case you have chosen the staining of the gels by staining sheets you have to renew the distaining solution in the tank after 10 distaining processes.



1a. Turn on button NORMAL/STAIN in STAIN. Put the INK tube in the waste bottle and press CLEAR/OUT. The distaining solution goes out. After that press CLEAR, put the INK tube in clear distaining solution and press IN to fulfill the tank with new solution.

2. In case you have chosen the staining of the gels by staining solution you must renew the staining solution in the tank after 10 staining processes.



1a. Turn on button NORMAL/STAIN in STAIN. Put the INK tube in the waste bottle and press CLEAR/OUT. The distaining solution goes out. After that press CLEAR, put the INK tube in the new staining solution and press IN to fulfill the tank with new staining solution.

IMMUNOFIXATION [under construction]

For Immunofixation select program 8.

For sample application use Sample Template 24.

Go on the steps of electrophoresis point 1-29.

1. After point 29 of electrophoresis it clicks and the temperature increases until about 30°C. Blot quickly the surface of the gel by one gel blotter sheet.	2. Adjust the antisera template on the Sample template carrier...	3...and apply it on the electrophoresis area.

4. Press ENTER. The antisera template steps down.	5. Apply the protein fixation solution and the antisera on the correct position	6. After 10 minutes press CLEAR.