

Project Summary of the Work Performed by the iGEM Team Debrecen-Hungary During July- October 2010

Contact info: balint@med.unideb.hu
yakirguri@gmail.com

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Goal of the project

The iGEM – Debrecen group is a multidisciplinary team. In summer 2010 we had guest students, the AKG team, from a high school in Budapest joining us. Our aim was to create a video tutorial framework in order to assist students that are willing to start to work in a Molecular Biology laboratory.

In general, the idea was to create an observational way of teaching the basic lab techniques. Nevertheless, the project grew larger, thus we have decided to improve it by adding soundtracks, pearls and comments.

This way we are aiming to establish an open source that will serve future iGEM members around the globe. We believe that this contribution is in harmony with the idea of the iGEM initiative.

Moreover, this "Film in Lab" project is a great example for how complicated procedures can be simplified; and resulting in efficient application of the theoretical knowledge by a beginner. For making the experience complete and fruitful, one may find the protocols in the 'Open Wet Ware' account of iGEM-Debrecen Team 2010. We recommend to read the protocols carefully before and after watching the video tutorial for maximizing the experience.

The members of the "Film in Lab" project :

Dorottya, Jakab – presenting student (Transformation, Midiprep, Gel-Electrophoresis)

Ozgyin, Lilla – presenting student (Cell-passaging, Ligand stimulation, Transfection)

Sandor, Kata – presenting student (PCR)

Nagy, Kata - critical review of Midiprep

Malka, Lior – presenting student (nanodrop), and our web master

Endre, Kristof – video making (PCR)

Guri, Yakir – supervising the project, film making and editing

Liu, Shun-Chien – coordinator, Scripts, video making (nanodrop) and audio co-editor

Markovits, Daniel – vocals

Guri, Yakir

Supervisor of the video project

Balint L. Balint, MD, PhD,

Supervisor and instructor of 'iGEM-Debrecen 2010 Team'

Please find on the following pages a summary of the work performed. All protocols are available through the following websites:

<http://2010.igem.org/Team:Debrecen-Hungary/protocols>

http://2010.igem.org/Team:Debrecen-Hungary/video_project

1. **Midiprep**

- Written protocol in Openwetware

http://openwetware.org/wiki/IGEM:University_of_Debrecen:_Midi_Prep

- Video tutorial

Part I	http://www.youtube.com/watch?v=4JyHe5qxihU
Part II	http://www.youtube.com/watch?v=Jots5XV6ZOA
Part III	http://www.youtube.com/watch?v=NRQz11mGnw
Part IV	http://www.youtube.com/watch?v=lq7bYjeeSf0
Part V	http://www.youtube.com/watch?v=z2Sav6GKSgs
Part VI	http://www.youtube.com/watch?v=HbR3qZ5Stxk
Part VII	http://www.youtube.com/watch?v=ljafO21XPow
Part VII	http://www.youtube.com/watch?v=JWGGDGPiz1U
Part VIII	http://www.youtube.com/watch?v=JWGGDGPiz1U
Part IX	http://www.youtube.com/watch?v=dxv63-rBc7E
Part X	http://www.youtube.com/watch?v=d2_HV8Mx0qo
Part XI	http://www.youtube.com/watch?v=0AFgNiVbFGg

2. Gel electrophoresis

- Written procol in Openwetware

http://openwetware.org/wiki/IGEM:University_of_Debrecen:Gel_electrophoresis

- Video tutorial

Part I	http://www.youtube.com/watch?v=Q-kmMidAo3A
Part II	http://www.youtube.com/watch?v=hjKJzMoa4_g&feature=related
Part III	http://www.youtube.com/watch?v=h6fVSIELFbo&feature=related
Part IV	http://www.youtube.com/watch?v=iSqstXOOkAQ&feature=related

3. Cell passaging

- Written protocol in Openwetware

http://openwetware.org/wiki/IGEM:University_of_Debrecen:Cell_Passaging

- Video tutorial

Part I	http://www.youtube.com/watch?v=7BniRI8C1PM
Part II	http://www.youtube.com/watch?v=DKRn3t9cZRI
Part III	http://www.youtube.com/watch?v=GpY9u6XO2AM
Part IV	http://www.youtube.com/watch?v=w2ohOYtCHas
Part V	http://www.youtube.com/watch?v=Uz5UnR0jVEU

4. **Transformation**

- Written protocol in Openwetware

http://openwetware.org/wiki/IGEM:University_of_Debrecen:Transformation_of_competent_cells

- Video tutorial

Part I	http://www.youtube.com/watch?v=8fg_IdCMyW8
Part II	http://www.youtube.com/watch?v=C_6LSQbNK3I
Part III	http://www.youtube.com/watch?v=s4suEpj26J4

5. **Ligand Treatment for one type receptor transfection**

- Written protocol in Openwetware

http://openwetware.org/wiki/IGEM:University_of_Debrecen:Ligand_Treatment

- Video tutorial

<http://www.youtube.com/watch?v=XnNfkADMjA0>

6. **Measuring concentration of plasmids by Nanodrop**

- Video tutorial

<http://www.youtube.com/watch?v=aD7VeMWQ9V0>

7. PCR

- Written protocol in Openwetware

[http://www.openwetware.org/wiki/IGEM:University of Debrecen: Polymerase Chain Reaction %28PCR%29](http://www.openwetware.org/wiki/IGEM:University_of_Debrecen:_Polymerase_Chain_Reaction_%28PCR%29)

- Video tutorial

Part I, II	http://www.youtube.com/watch?v=vlbKpzlOAXA
Part III	http://www.youtube.com/watch?v=j-hmoyMSc2Y
Part IV	http://www.youtube.com/watch?v=8_cafnNEqhU
Part V	http://www.youtube.com/watch?v=9fUZtcbOvqs
Part VI	http://www.youtube.com/watch?v=nDOxB_aST0

8. Transfection

- Written protocol in Openwetware

[http://www.openwetware.org/wiki/IGEM:University of Debrecen: transfection](http://www.openwetware.org/wiki/IGEM:University_of_Debrecen:_transfection)

- Video tutorial

Part I	http://www.youtube.com/watch?v=r8DlyOCRJR8
Part II	http://www.youtube.com/watch?v=lgRxD-Tf5Eo