

Workshop on Surface plasmon resonance – *theory and hands-on*

22-24/05/2017

Lectures: building A35/211
Practicals: building A4/218

Monday 22nd May – Open to everyone

Building **A35**, room 2.11

10:00 – 11:00

Registration

11:00 – 11:10

Workshop opening (*Michaela Wimmerová*)

11:10 – 11:55

General introduction to SPR (*Jean-Baptiste Reiser*)

11:55 – 12:40

The use of SPR to study protein-protein interactions (*Clare Stevenson*)

12:40 – 13:25

The use of SPR to study protein-DNA interactions (*Clare Stevenson*)

13:25 – 14:10

Snack break

14:10 – 15:00

Experimental considerations for studying protein-membrane interactions by surface plasmon resonance (*Gregor Anderluh*)

15:00 – 15:40

Using SPR to study protein-carbohydrate interactions (*Lenka Malinovská*)

15:40 – 16:00

Coffee break

16:00 – 16:45

Different approaches for SPR chip surface preparation (*Petr Skládal*)

16:45 – 17:30

Practical aspects of experimental design of SPR experiments (*Jean-Baptiste Reiser*)

Tuesday 23rd May – Registered participants only

Building **A4**, room 2.18

9:00 – 17:00

Group 1 - BiaCore T200

Protein-DNA interaction experiments – tutored by *Clare Stevenson*

- Preparation of the ReDCaT chip (immobilisation of biotinylated DNA)
- Use of the ReDCaT chip to see which DNA sequence the protein binds to (qualitative experiment)
- Single cycle kinetics and/or multicycle kinetic run to quantitate the interaction
- Data evaluation, different data results, data presentation, method writing, etc.

9:00 – 17:00 **Group 2 – Biacore 3000**

Protein-protein experiments – tutored by **Jean-Baptiste Reiser**

- Immobilisation of ligand and blank surface preparation
- Test of binding of the ligand at 2 concentrations
- Single cycle kinetics and/or multicycle kinetic run to quantitate the interaction
- Evaluation of the results
- Presentation of alternative methods

Coffee breaks and lunch break will be held according to free time available during experiments.

17:00 – 18:00 **Both groups** - Excursion to other SPR systems - **Zdeněk Farka**

18:00 – 19:30 **Get-together**

Wednesday 24th May – Registered participants only

Building A4, room 2.18

9:00 – 17:00 **Group 1 – Biacore 3000**

Protein-protein experiments – tutored by **Jean-Baptiste Reiser**

- Immobilisation of ligand and blank surface preparation
- Test of binding of the ligand at 2 concentrations
- Single cycle kinetics and/or multicycle kinetic run to quantitate the interaction
- Evaluation of the results
- Presentation of alternative methods

9:00 – 17:00 **Group 2 - BiaCore T200**

Protein-DNA interaction experiments – tutored by **Clare Stevenson**

- Preparation of the ReDCaT chip (immobilisation of biotinylated DNA)
- Use of the ReDCaT chip to see which DNA sequence the protein binds to (qualitative experiment)
- Single cycle kinetics and/or multicycle kinetic run to quantitate the interaction
- Data evaluation, different data results, data presentation, method writing, etc.

Coffee breaks and lunch break will be held according to free time available during experiments.

17:00

Closing remarks