



**diagenode**

Innovating Epigenetic Solutions

# **Next Workshop on Epigenetic Profiling ChIP & MChIP**

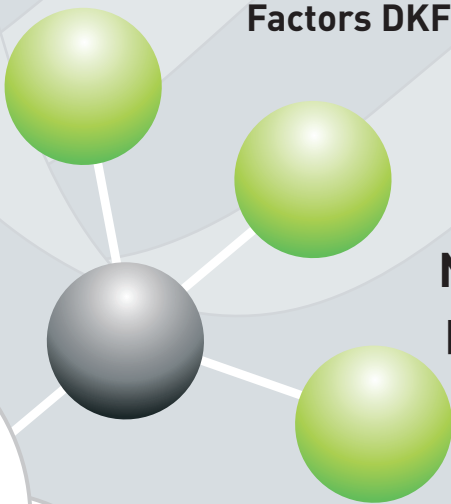
**18-21st October 2010**

Organized by the **Division of Epigenomics and Cancer Risk  
Factors DKFZ Heidelberg**, and Diagenode's training team

**Have you heard about  
these exciting techniques?**

**Now is your chance to learn how to  
perform these protocols and bring  
the technology back to your lab!**

**Limited number of places!**



## WORKSHOP DETAILS

### How it works in brief

Methyl CpG immunoprecipitation (MCIp) is performed as follows: Genomic DNA from cultured cells or tissues is prepared and fragmented by sonication.

Genomic DNA  
fragmentation (Bioruptor®)

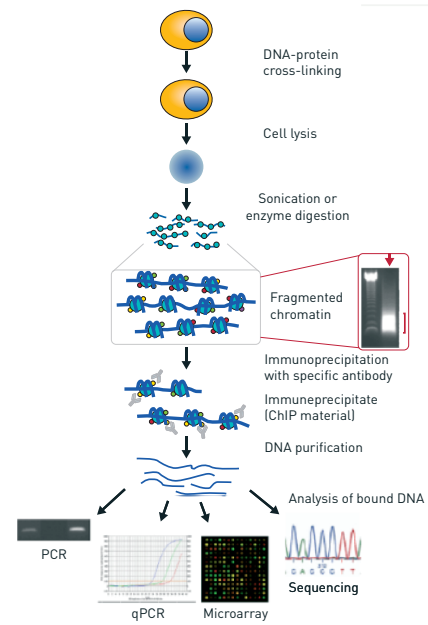
methylDNA capture,  
robot (SX-8G IP-  
Star®) or lab bench;  
fractionation by degree  
of methylation

methylDNA quantitation  
by qPCR on imprinted  
genes



Using the IP-Star robot or performed on lab bench, fragmented DNA is captured by MBD2 protein coupled to magnetic beads. Coupled DNA is fractionated according to degree of methylation using an increasing salt gradient. Following DNA purification, fractions are ready for any subsequent analysis (e.g. qPCR, microarray or next generation sequencing).

Chromatin IP is performed as follows: Chromatin is first treated with formaldehyde to fix DNA-bound proteins to the DNA. The chromatin is subsequently sheared into small fragment sizes (200bp – 1kb).



Immunoprecipitation follows using a specific ChIP-grade antibody. Crosslinking is reversed and the DNA can be purified using different approaches (e.g. magnetic bead IPure kit). The purified DNA is analyzed to identify the genomic regions where the specific protein is located using, for example, next generation sequencing (ChIP-seq), qPCR (ChIP) or hybridization on a microarray (ChIP-chip).

During the workshop, **we'll go through each step** of both techniques and talk about optimization and potential pitfalls.

**You'll be provided with everything you need** at the workshop to carry through an entire chromatin and methylated DNA immunoprecipitation experiment in a model system. All you need to bring is a list of questions and your enthusiasm to learn new technologies!

To enhance our workshop **we have invited 3 scientists working in the field of epigenomics to present their data and discuss their experiences** in epigenetic analyses such as MCIp and MeDIP followed by microarray analyses or next generation sequencing.

You will also enjoy **the friendly and professional atmosphere** created by DIAGENODE's team during and "after sessions..." Training, reagents and registration is included in the price (accommodation and travel must be booked separately; see registration form page 5).

Monday 18th October 2010	
9h15	Welcome
9h30 / 10h30	"Introduction: Epigenetic chromatin modifications"
10h45 / 12h00	"Presentation of Practical Training"
13h30 / 15h30	Workshop ChIP: chromatin crosslinking Workshop MChIP: DNA sonication; gel analysis of DNA
15h30 / 16h30	Conference 1
16h45 / 18h00	Workshop ChIP: chromatin sonication, o/n proteinase K digestion for quality control (QC) Workshop MChIP: MBD2-bead coupling
Tuesday 19th October 2010	
9h00 / 12h00	Workshop ChIP: QC continued with phenol/chloroform extraction; gel analysis of DNA Workshop MChIP: DNA capture by MBD2, robot and lab bench
13h30 / 15h30	Workshop ChIP: Immunoprecipitation Workshop MChIP: DNA purification
15h45/ 16h45	Conference 2
Wednesday 20th October 2010	
9h00 / 12h00	Workshop ChIP: DNA purification Workshop MChIP: qPCR
13h30 / 16h00	Workshop ChIP: DNA purification continued
16h15 / 17h30	Workshop ChIP: qPCR Workshop MChIP: analysis of qPCR results
Thursday 21th October 2010	
9h00 / 10h00	Conference 3
10h15 / 11h30	Workshop ChIP: analysis of qPCR results Workshop MChIP: analysis of qPCR results continued
11h45 / 12h45	Conclusions and discussion

**Registration form**  
**ChIP – MClp Workshop**

October 18-21st 2010

Registration deadline: September 15th 2010

Registration fees:       - **Public or academic: 750 €** excl taxes  
(accommodation not included)       - **Private: 1,150 €** excl taxes

The number of places is limited to 10 attendees per workshop !

**First Name:**

**Last Name:**

- |                                     |                                       |                                   |   |  |
|-------------------------------------|---------------------------------------|-----------------------------------|---|--|
| <input type="checkbox"/> Researcher | <input type="checkbox"/> Group leader | <input type="checkbox"/> Engineer | <input type="checkbox"/> Lecturer         | <input type="checkbox"/> Medical Dr      |
| <input type="checkbox"/> Technician | <input type="checkbox"/> PhD Student  | <input type="checkbox"/> Post-doc | <input type="checkbox"/> Graduate student | <input type="checkbox"/> Other (precise) |

**Academic sector**

**Private sector**

**Tel:**

**Fax:**

**E-mail:**

**Address:**

**Name of the laboratory:**

**Institution or Company:**

**Invoicing address:**

**Contact person:**

**VAT number Fiscal / Tax id:**

Director's signature

Applicant's signature

Form to be returned to: [d.weichenhan@Dkfz-Heidelberg.de](mailto:d.weichenhan@Dkfz-Heidelberg.de)  
Fax: +49 (0) 6221 423359

To allow us to understand and design the workshop to suit your needs, please fill in the following questionnaire:

How did you hear about this Diagenode's workshops?

Revue       e-mail       Web Site       through a colleague       Other, precise:

Can you tell us more about your research project, ongoing or planned?

If so, briefly describe it:

Do you have specific needs or expectation?

If so, briefly describe it: