

Program
of the 8th Meeting of the German DNA Repair Network
September 28 – October 1, 2004, in Ulm

Tuesday, September 28, 2004

10.30-13.30

Registration

13.30-14.00

Welcome address and opening remarks

L. Wiesmüller, Local Organization

K.-M. Debatin, Dean of the Medical Faculty, University of Ulm

J. Thomale, Chairman of the German DNA Repair Network

Session 1: Poly(ADP-ribose) metabolism and base excision repair

Chair: A. Bürkle, B. Epe

14.00-14.30

Keynote Lecture:

G. de Murcia (Strasbourg)

Poly(ADP-ribose) polymerase-2: from the structure to the function

14.30-14.50

S. Beneke (Konstanz)

Inhibition of PARP activity leads to reversible telomere shortening.

14.50-15.20

Invited Lecture:

G. Dianov (Harwell, Oxfordshire)

Mammalian base excision repair

15.20-15.40

S.L. Oei (Berlin)

Poly(ADP-ribose) metabolism in DNA base excision repair

15.40-16.10

Coffee break

- 16.10-16.40 ***Invited Lecture:***
R.H. Elder (Manchester)
DNA-*N*-glycosylase deficient mice
- 16.40-17.00 **U.R. Sorg (Essen)**
In-vivo-selection of genetically corrected cells by MGMTP140K-expression

Session 2: DNA lesion processing and bypass

Chair: B. Kaina, E. Heidenreich

- 17.00-17.30 ***Invited Lecture:***
U. Hübscher (Zürich)
The genome cleaning company: synthesizers, proofreaders, sensors and trimmers
- 17.30-17.50 **M. Christmann (Mainz)**
Induction of flap endonuclease 1(fen1) by UV-C light enhances recovery from the DNA replication block
- 17.50-18.10 **S. Emmert (Göttingen)**
Phenotype-genotype correlation of a xeroderma pigmentosum variant patient
- 18.10-18.30 **W. Kramer (Göttingen)**
Yeast Mph1 promotes sister chromatid interactions in a recombinational pathway for error-free bypass of DNA lesions

18.30 *Welcome party*

Wednesday, September 29, 2004

Session 3: Crosslink repair and nucleotide excision repair

Chair: A. Hartwig, J. Thomale

- 9.00-9.30 *Invited Lecture:*
O.D. Schärer (Zürich)
 Chemical biology of mammalian nucleotide excision repair and interstrand crosslink repair
- 9.30-9.50 **U. Camenisch (Zürich)**
 Molecular analysis of the xeroderma pigmentosum group A protein function by site-directed mutagenesis
- 9.50-10.10 **H.P. Nasheuer (Galway)**
 Human replication protein A functions as a central switch in cellular DNA metabolism
- 10.10-10.30 **T. Schwerdtle (Berlin)**
 Interference with NER and changes in p53 conformation by soluble and particulate cadmium compounds

10.30-11.00 *Coffee break*

Session 4: Mismatch repair and emerging new repair pathways

Chair: W. Kramer, U. Kasten-Pisula

- 11.00-11.20 **C. Reis (Würzburg)**
 Mismatch repair defects and infertility in mice carrying the Mlh1G67R missense mutation
- 11.20-11.50 *Invited Lecture:*
F. Grosse (Jena)
 A role of human DNA topoisomerase I in DNA repair and apoptosis
- 11.50-12.10 **H. Interthal (Seattle)**
 Characterization of the human tyrosyl-DNA phosphodiesterase mutation causing spinocerebellar ataxia with axonal neuropathy (SCAN1)

12.10-12.30 **R.A. El-Awady (Hamburg)**
 Topotecan-induced DNA double-strand breaks are repaired by homologous recombination and variably affected by caffeine

12.30-13.45 *Lunch*

Session 5: Double-strand break repair: non-homologous end joining

Chair: J. Dahm-Daphi, T. Dörk

13.45-14.15 *Invited Lecture:*
K.-P. Hopfner (München)
 Structural biology of ATP-driven conformational control in Rad50 and SMC Proteins

14.15-14.45 *Invited Lecture:*
K. Schwarz (Ulm)
 ARTEMIS, a structure-specific nuclease of the NHEJ pathway

14.45-16.15 **Poster Session I**
Coffee break

16.15-16.35 **L. Brugmans (Rotterdam)**
 Loss of end-joining efficiency and precision in mutant hamster and patient cells

16.35-16.55 **P. Pfeiffer (Essen)**
 Features of Ku-independent error-prone NHEJ

16.55-17.15 **H.M. Feldmann (München)**
 Role of Yku in replicative aging in *S. cerevisiae*

17.15-17.35 **C. Müller-Tidow (Münster)**
 DNA damage leads to a p53 mediated induction of Cyclin A1 that activates DNA double strand break repair

17.35 h **Assembly of the "DNA-Reparatur-Netzwerk"**

Thursday, September 30, 2004

8.30-8.40 Welcome address to the Graduate College 460
M. Schiebe, Co-ordinator

Session 6: Double-strand break repair and repair defects in genetic diseases and carcinogenesis

Chair: L. Wiesmüller, G. Speit

8.40-9.10 **Keynote Lecture:**
M. Jasin (New York)
Double-strand break repair and genomic integrity in mammalian cells

9.10-9.40 **Invited Lecture:**
Y. Saintigny (Fontenay-aux-Roses)
Double-strand break repair in mammalian cells: Competition between homologous recombination and non-homologous end-joining through the cell cycle.

9.40-10.00 **D.-H. Lankenau (Ladenburg)**
"Knockin" and "Knockout" gene targeting in the Drosophila germline, and the involved double-strand break (DSB) repair processes

10.00-10.30 **Invited Lecture:**
M. Digweed (Berlin)
DNA-repair and cell cycle checkpoint defects in Nijmegen Breakage Syndrome and Fanconi anaemia

10.30-12.00

Poster Session II

Coffee break

12.00-12.30 **Invited Lecture:**
M. Löbrich (Homburg/Saar)
A sub-pathway of non-homologous end-joining dependent upon ATM, Artemis and proteins locating to γ -H2AX foci

12.30-12.50 **A. Rapp (Jena)**
 Homologous recombination and non homologous end joining cooperate
 at the same DSB if both systems are available.

12.50-14.00 *Light lunch*

**Session 7: Chromatin, chromosomes,
 and repair defects in genetic diseases and carcinogenesis**

Chair: G. Taucher-Scholz, A. Friedl

14.00-14.20 **B. Jakob (Darmstadt)**
 Fast protein translocations and chromatin migration observed by live cell
 microscopy after local DNA damage induced by heavy ions

14.20-14.40 **N. Sadoni (München)**
 Stable chromosomal units determine the spatial and temporal
 organization of DNA replication

14.40-15.00 **B. Kneitz (Würzburg)**
 Disruption of spindle checkpoint gene BUB1B leads to embryonic
 lethality, loss of spindle checkpoint functions and aneuploidy

15.00-15.30 *Invited Lecture:*
G. Speit (Ulm)
 Chromosomal mutagen sensitivity, DNA repair deficiency and
 susceptibility to breast cancer

15.30-15.50 **J. Blasiak (Lodz)**
 DNA damage and repair in breast cancer

15.50-16.20 *Coffee break*

16.30 *Bus pickup*
Archeological guided tour of Ulm
Dinner in the Edwin-Scharff-Haus

Friday, October 1, 2004**Session 8: DNA repair, cancer therapy, and apoptosis**

Chair: C. Blattner, M. Frankenberg-Schwager

- 9.00-9.30 ***Invited Lecture:***
K.M. Debatin (Ulm)
Cell death pathways and cancer therapy
- 9.30-9.50 **S.A. Gatz (Ulm)**
The antitumorigenic agent Resveratrol has an inhibitory effect on
homology-directed double-strand break repair.
- 9.50-10.10 **H.-W. Stürzbecher (Lübeck)**
Towards the mechanisms governing Rad51-dependent chemo-resistance
of tumour cells
- 10.10-10.30 **E.T. Sakamoto-Hojo (Sao Paulo)**
Alterations in the expression of DNA repair genes in response to ionizing
radiation

10.30-11.00 *Coffee break***Session 9: DNA damage-triggered signaling and apoptosis**

Chair: C. Friesen, J. Wesierska-Gadek

- 11.00-11.20 **H. Puchta (Karlsruhe)**
Antagonistic roles of the RAD17 pathway and BRCA1 in the regulation
of DNA repair and homologous recombination in *Arabidopsis thaliana*
- 11.20-11.40 **W.P. Roos (Mainz)**
Apoptosis triggered by O⁶-methylguanine in primary human
lymphocytes: role of DNA replication, DNA double-strand breaks, p53
and death receptor activation.

11.40-12.00	O.-G. Issinger (Odense) The `regulatory´ β -subunit of protein kinase CK2 negatively influences p53-mediated allosteric effects on CHK2 activity towards p53 activation.
12.00-12.20	G. Fritz (Mainz) Alkylation-induced DNA damage contributes to the activation of stress-activated protein kinases/c-Jun N-terminal kinases (SAPK/JNK)
12.20	Presentation of the Meeting Fellowship Awards 2004 and Closing Remarks <i>Lunch</i>