Stellingen

behorende bij het proefschrift

Cellular responses to replication problems

Magdalena Budzowska

1. Rad17 and the 9-1-1 complex not only participate in checkpoint signaling, but are likely to be directly involved in DNA replication, damage repair, and/or damage bypass.
   This thesis, Chapter 1

2. Mus81-Eme1 structure specific endonuclease is involved in processing recombination intermediates generated at stalled replication forks.
   Hanada et al., Nat Struct Mol Biol. 2007; this thesis, Chapter 5

3. Detection of low levels of DSBs formed in vivo is difficult, since both the use of gamma-H2AX antibodies and PFGE technique have serious limitations.
   Hanada et al., EMBO J. 2006, this thesis, Chapter 4

4. A lot of attention is focused on RAD51, the catalytic core of homologous recombination. However, the proteins that regulate RAD51 are the key to understanding how recombination reactions are controlled.
   Modesti et al., Mol Cell. 2007, this thesis, Chapter 6

5. Damaged DNA and active replication forks present below a threshold level in the G2 phase might fail to activate checkpoint signaling.
   Torres-Rosell et al., Science 2007, this thesis, Chapter 5

6. Restart of the cell cycle following a DNA damage checkpoint arrest is not a default pathway, but requires active signaling.
   Freire et al., Cell Cycle 2006

7. It is evident that individuals differ in the ability to repair DNA; however, with the current techniques, it is impossible to measure absolute or relative DNA repair capacity.

8. Genomic instability can turn out to be not just the driving force but also the Achilles' heel of cancer.
   Murga and Fernández-Capetillo, Clin Transl Oncol 2007

9. Translesion synthesis and homologous recombination are likely to be more closely interconnected that generally appreciated.

10. Doubt grows with knowledge.
    Johann Wolfgang von Goethe

11. Very little is needed to make a happy life, it is all within yourself, in your way of thinking.
    Marcus Aurelius

26th March 2008

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