

Michelle DEBATISSE
Professeur des universités
à l'Université Pierre et Marie Curie

Professional cursus :

As a teacher the University Pierre et Marie Curie (UPMC ,Paris VI)

Assistant professor	1986-1995
Full Professor	1995
Nomination as Member of the "Institut Universitaire de France"	2005

As a researcher:

Postdoctoral training :

Laboratory of Molecular biology (Director Dr. G. Stark) Imperial Cancer Research Fundation, London	1985-1986
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Head of a Research group

Institut Pasteur: Unit of Somatic Cell Genetics	1990-2000
Institute Curie: UMR7147	2001-2002

Head of UMR 7147, Institut Curie,CNRS ,UPMC	January 2005
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Research interest

It was long suggested that replication errors plays a major role in cancer development. Recent work has shown that checkpoints monitoring genome integrity, and more specifically those operating during S-phase, are activated in different types of preneoplastic lesions, indicating that genome instability appears at very early steps of oncogenesis. The molecular bases of this activation in cells that were not submitted to exogenous replication stress are still unclear. It was proposed that cells undergoing oncogenic transformation may present an abnormal distribution of initiation events and/or fork stalling within regions intrinsically difficult to replicate, which may lead to incomplete replication and, in turn, to DNA double strand breaks. In order to directly adress these questions, we used the molecular combing technique to study the replication dynamics in mammalian somatic cells. We are presently interested to understand how the density of active origins and the replication speed are regulated, and to analyze the replication dynamics at common fragile sites, namely chromosome regions where breaks occur recurrently when cells are grown under conditions peturbing replication.

Principales publications :

- Courbet S., Gay S., Arnoult N., Wronka G., Anglana M., Brison O., Debatisse M. (2008). Replication fork movement sets chromatin loop size and origin choice in mammalian cells. *Nature*. 455:557-60.
- Haber J.E., Debatisse M. (2006). Gene amplification: yeast takes a turn. *Cell*. 125, 1237-1240.
- El Achkar E., Gerbault-Seureau M., Muleris M., Dutrillaux B., Debatisse M. (2005). Premature condensation induces breaks at the interface of early and late replicating chromosome bands bearing common fragile sites. *Proc. Natl. Acad. Sci. (USA)* 102, 18069-18074.
- Anglana, M., Apiou, F., Bensimon, A., Debatisse, M. (2003). Dynamics of DNA replication in mammalian somatic cells: nucleotide pool modulates origin choice and interorigin spacing. *Cell*. 114, 385-94.