

# Molecular Machines of Protein Destruction as Novel Targets in Cancer Therapies



Michele Pagano

Investigator Biochemistry, Cell Biology Howard Hughes Medical Institute 2008 - current Ellen and Gerald Ritter Professor of Oncology Pathology New York University School of Medicine 1996 - current

## CURRENT RESEARCH

Recent therapeutic success in the protein degradation field suggests the potential to develop new drugs for patients with cancer

Cancer develops when cells multiply too quickly or die too little, which is due to either excessive amounts of onco-proteins, driving malignant transformation, or the absence of tumor suppressor proteins, which prevent tumor formation. Dr. Michele Pagano, of the New York University School of Medicine and the Howard Hughes Medical Institute, investigates the mechanisms by which the elimination of certain tumor suppressor proteins is accelerated, while that of certain onco-proteins is inhibited in human tumors. In particular he focuses on a family of enzymes, called SCFs, that catalyze the attachment of ubiquitin molecules to proteins that need to be destroyed. Dr. Pagano's research explores the fundamental role of SCFs in controlling and synchronizing the key three dimension of cellular life: proliferation, survival, and differentiation. He and his team hope to modulate the activities of these key enzymes to fight cancer -- particularly, prostate tumors and lymphomas.

For more than fifteen years, Dr. Pagano's laboratory has studied how the proliferation of human cells is controlled by the SCF ubiquitylating enzymes. His expertise in the ubiquitin system and the methods for its investigation provide his laboratory with a unique position to discover novel mechanisms in the cell as well as identify new drugs that can fight cancer. His research has inspired the research efforts of many Ph.D. students and postdoctoral fellows that worked or still work in his laboratory. In fact, donors to the Pagano Laboratory, will be offered an invitation to come learn alongside Dr. Pagano himself. The dynamic atmosphere of the Pagano Laboratory together with its expertise are a guarantee that this team will...

## AFFILIATION

 New York University

## AWARDS

- Senior Award, 2007
- The Eunice and Irving Leopold lecture, 2007
- The Interurban Clinical Club lecture, 2007
- MERIT Award, 2006

## RESEARCH AREAS

Life Science, Oncology / Cancer, Oncology / Cancer

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Pagano. Donations will support the expansion of Dr. Pagano's program by allowing him to add motivated, goal-oriented members to his research group. In choosing to donate, you will be funding science necessary for novel cancer therapies and choose between two different forms of contributions: "adopting" one or more postdoctoral fellows (providing funds for salaries and supplies) and "adopting and learning" from a postdoctoral fellow.

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