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di Catania



SCIENZE BIOMEDICHE
E BIOTECNOLOGICHE



THE UNIVERSITY OF
CHICAGO
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OICR
ONCOLOGY INSTITUTE OF CANADA



PreDiCT
Centre for Precision and Predictive, Diagnostic and Therapeutic Cancer

**YY1
RKIP**

International Conference



**MARCH 8-11
2023**

Catania, Sicily, ITALY



Conference Center
Four Points
by Sheraton Catania Hotel

Via Antonello Da Messina, 45
95021 | Aci Castello
CATANIA

1st Joint International Symposium

**PROGNOSTIC AND THERAPEUTIC IMPLICATIONS
OF RKIP AND YY1 IN CANCER, DIABETES
AND CARDIOVASCULAR DISEASES**

March 11, 2023

Satellite Symposium

Organized by



SCIENZE BIOMEDICHE
E BIOTECNOLOGICHE



LILT

LEGA ITALIANA PER LA LOTTA CONTRO I TUMORI
prevenire e vivere

Catania and Ragusa Associations

- **OPENING CEREMONY OF
BIOINFORMATIC MASTER DEGREE**
- **ROUND TABLE:
RESEARCH PROGRAM OF
THE ITALIAN LEAGUE AGAINST CANCER**

ORGANIZERS

International Committee:

Fahd Al-Mulla, Kuwait University | Kuwait

Stavroula Baritaki, Crete University | Greece

Benjamin Bonavida, UCLA, Los Angeles | USA

Massimo Libra, University of Catania | Italy

Marsha Rosner, University of Chicago | USA

Kam Yeung, University of Toledo | USA

Local Scientific Organizers:

Massimo Libra, University of Catania | Italy

Saverio Candido, University of Catania | Italy

Luca Falzone, University of Catania | Italy

Silvia Vivarelli, University of Messina | Italy

Current treatments have changed cancer patients' prognosis. However, cancer therapeutic resistance remains a major challenge accounting for approximately 10 million deaths in 2020. Therefore, there is an urgent need to identify more robust biomarkers that can be used as diagnostic/prognostic indicators and in turn as therapeutic targets.

Since the last fifteen-years, Raf kinase inhibitor protein (RKIP) and Yin Yang 1 (YY1) emerged as interesting predictive molecules in cancer, cardiovascular disease, and diabetes. Their roles in chronic diseases are contradictory.

Therefore, the scientific committee of the present workshop has decided to integrate the most recent findings of these two gene products into a single conference.

RKIP is a member of the phosphatidylethanolamine-binding protein (PEBP) family. It plays a pivotal modulatory role in several protein kinase signaling cascades.

Cancer, heart disease and diabetes are leading causes of morbidity and mortality worldwide. These diseases have common risk factors, common molecular signaling pathways that are central to their pathogenesis, and even some disease phenotypes that are interdependent. Thus, the goal of therapeutic strategies should be to promote the normalization of these signaling pathways under pathological conditions.

RKIP represents a physiological mechanism for achieving this outcome. YY1 is a crucial factor regulating cell proliferation and apoptosis and it has been implicated in many regulatory mechanisms in different tissues and particularly in cancer. YY1 overexpression is observed in many cancers and has various biological implications with respect to the hallmarks of cancer namely, YY1 suppresses the expression of a number of tumor suppressors involved in various cellular functions.

The First International Conference on "Prognostic and Therapeutic Roles of Yin Yang 1 in Cancer" (Catania, Italy May 24-26, 2009) and the Second International Conference on "Prognostic and Therapeutic Applications of RKIP in Cancer" (Crete, Greece May 9-10, 2019) provided an excellent knowledge sharing a platform in the YY1 and RKIP fields.

As the RKIP/YY1 fields continue to evolve, establishing novel cross-regulating networks, the organizers have decided to bring together a global think tank of scientists working either on YY1 or RKIP or both under the same roof, by organizing a joint RKIP/YY1 conference in Catania on March 2023.

This conference will encompass keynote presentations by globally acclaimed speakers, panel discussions, and fireside chats in the hope to expand the frontiers of knowledge and stimulate dialogue on the recent advancements of YY1 and RKIP implications and targeting in cancer. Through this one-of-a-kind meeting, we further endeavor to offer a platform for networking and growth opportunities within an elite group of established individuals and young scientists who work on YY1 and/or RKIP.

WEDNESDAY

MARCH 8

6:00 - 7:00 PM

Welcome Cocktail at “Timo Gourmet”
Four Points Conference Center

THURSDAY

MARCH 9

9:00 AM

Opening Remarks

SESSION I

RKIP: General Properties and Role in Diseases (I)
Chairmen: *Stavroula Baritaki; Kam Yeung*

9:30 AM

Plenary Lecture
Lessons from RKIP: Rewiring Signaling Pathways
as a Therapeutic Approach to Cancer
Marsha Rosner

9:55 AM

RKIP - a Regulator of Beta-Adrenergic Signaling
in the Heart
Kristina Lorenz

10:20 AM

RKIP as a CDK1 Regulated Inhibitor of the Mitotic
Checkpoint
Christopher Figy

10:45 AM

Discussion

11:00 AM

Coffee break - Poster Session

SESSION II

YY1: General Properties and Role in Diseases (I)

Chairmen: *Benjamin Bonavida; Kathy Lui*

11:30 AM

Plenary Lecture (online)

Phase Separation Regulates YY1-Mediated Enhancer Formation in Cancer Cells
Guangchao Sui

11:55 AM

Balance of Yin Yang Family and Regulation of Cellular Redox Homeostasis
Vivi Kasim

12:20 PM

The Importance of Structural Disorder in the Molecular Recognition of YY1 Partners
Andrzej Górecki

12:45 PM

Discussion

1:00 PM

Light Lunch

SESSION III

RKIP: General Properties and Role in Diseases (II)

Chairmen: *Gabor Balazsi; Marsha Rosner*

2:00 PM

Effect of RKIP Loss in Mammary Duct Development and Neoplastic Transformation
Kam Yeung

2:20 PM

Synthetic Biological Investigation of the RKIP-BACH1 Regulatory Network
Gabor Balazsi

2:40 PM Usefulness of RKIP Assessment in Various Cancer Types: Could it be a New Reliable Tumor Marker?
Massimo Papale

3:00 PM **Discussion**

SESSION IV **YY1: General Properties and Role in Diseases (II)**
Chairmen: *Joseph Kissil; Ferdinando Nicoletti*

3:15 PM YY1 in Bone Homeostasis and Tumor Angiogenesis
Filomena de Nigris

3:35 PM YY1 as a Moderator of Stress-Induced Resistance of Colorectal Cancer Cells to Immune-Mediated Cytotoxicity
Stavroula Baritaki

3:55 PM YY1 Regulates Glucose Homeostasis Through Controlling Insulin Transcription in Pancreatic β -Cells
Kathy Lui

4:15 PM **Discussion**

4:30 PM **Closing Remarks**

5:30 - 7:00 PM *City Tour*

7:00 - 9:00 PM *Dinner at “Canni e Pesci” Restaurant
Catania City Center*

FRIDAY

MARCH 10

SESSION V

RKIP: General Properties and Role in Diseases (III)

Chairmen: *Qais Al-Duwairi; Kristina Lorenz*

9:00 AM

Plenary Lecture

GSK3 and RKIP in Metabolic Disorders: A Proposal for a Joint International Research Program

Fahd Al-Mulla

9:25 AM

RKIP Protects Mitochondria Under Ischemic Conditions

Theresa Brand

9:45 AM

Characterization of RKIP Expression in Different Histological Variants of Leiomyoma and in Leiomyosarcoma

Pasquapina Ciarmela

10:05 AM

RKIP/PEBP1: Central to the Redox Loxsisome, Epithelial Biology and Asthma

Sally Wenzel

10:25 AM

Effect of PHB Ligands on RKIP Expression and Phosphorylation

Laurent Désaubry

10:45 AM

Discussion

11:00 AM

Coffee break - Poster Session

SESSION VI

YY1: General Properties and Role in Diseases (III)

Chairmen: *Benjamin Bonavida;*
Demetrios A. Spandidos

11:15 AM

Different Role of Yin Yang 1 in Colon Cancer
and B-cell NHL Cells
Silvia Vivarelli

11:35 AM

Understanding the Role of YY1 and YAP
in Neurofibromatosis Type 2 (NF2)
Joseph Kissil

11:55 AM

Reprogramming Effect of Preimplantation Embryonic
Microenvironment on Cancer Stem Cells
and the Role of Ying Yang 1
Gülperi Öktem

12:15 PM

Yin Yang 1 Phosphorylation Induces Vascular
Endothelial Proliferation Promoting Atherosclerosis
Under Disturbed Flow
Jeng-Jiann Chiu

12:35 PM

Discussion

1:00 PM

Light Lunch

SESSION VII

RKIP: General Properties and Role in Diseases IV

Chairmen: *Fahd Al-Mulla; Alexandre Ramos*

2:00 PM

RKIP and Lung Cancer: from the Bench to Bedside
Olga Martinho

2:20 PM

Therapeutic Effect of Novel Chemical Inhibitor for
RKIP and TbetaR1 Binding on NF2 Syndrome
Bum-Joon Park

2:40 PM

The Role of RKIP in Inflammation and
Tumor-Immunity
Xiaojian Wang

3:00 PM

A Stochastic Binary Model for the Regulation of Gene
Expression to Investigate Responses to Gene Therapy
Alexandre Ramos

3:20 PM

Discussion

SESSION VIII

YY1/RKIP Cross Talks

Chairmen: *Gabor Balazsi; Apostolos Zaravinos*

4:00 PM

Cross-Talks Between RKIP and YY1: A Multilevel
Pan-Cancer Analysis Focusing on Their Expression,
Mutation, Methylation, Immune Infiltration,
and Drug Resistance
Apostolos Zaravinos

4:20 PM RKIP and YY1 Expression is Modulated in Tumour Cells after Repeated Treatment with Anticancer Drugs Inducing Oxidative Stress: Implications for the Development of Tumour Resistance
Valentina Rapozzi

4:40 PM RKIP Downregulation is Associated with YY1 Overexpression in lung Cancer: Diagnostic and Prognostic Implication
Luca Falzone

5:00 PM Who is the Winner? RKIP (David) or YY1 (Goliath) in Fighting Cancer
Benjamin Bonavida

5:25 PM **Discussion**

5:40 - 6:00 PM **Closing Remarks**
Arman Lari

7:00 - 9:00 PM ***Social Dinner at “Timo Events”***
Four Points Conference Center

SATURDAY

MARCH 11

Organized by



Catania and Ragusa
Associations

Satellite Symposium

OPENING CEREMONY OF BIOINFORMATIC MASTER DEGREE

9:00 AM

Introduction of the Faculty

9:30 AM

Invited Lectures

ELIXIR: the European Research Infrastructure
for Bioinformatics and Genomics

Graziano Pesole

10:00 AM

In Silico Medicine: the use of the Computer Models
to Support the Medical Decision and to Assess the
Safety and Efficacy of new Medical Products

Francesco Pappalardo

10:30 AM

VDAC as Therapeutic Target

Vito De Pinto

**ROUND TABLE: RESEARCH PROGRAM OF
THE ITALIAN LEAGUE AGAINST CANCER**

Chairmen: *Massimo Libra; Carmela Lauria;
Giuseppe Micali*

11:00 AM	Introduction <i>Aurora Scalisi; Maria Teresa Fattori</i>
11:30 AM	Bioinformatics Approaches for the Identification of DNA Methylation Biomarkers in Cancer <i>Saverio Candido</i>
11:45 AM	Epigenetic Biomarkers in Cutaneous Melanoma: Diagnostic and Prognostic Value of DNA Methylation Hotspots <i>Luca Falzone</i>
12:00 PM	Microbiota Enrichment and MicroRNA Epigenetic Modulation for the Management of Colorectal Cancer <i>Giuseppe Gattuso</i>
12:15 PM	Diagnostic and Prognostic Value of LC-OCT Imaging Investigations in Dermatological Diseases <i>Anna Elisa Verzi</i>
12:30 PM	Closing remarks

Qais Al Duwairi | Dasman Diabetes Institute, KUWAIT
Fahd Al-Mulla | Dasman Diabetes Institute, KUWAIT
Gabor Balazsi | Stony Brook University, NY - USA
Stavroula Baritaki | University of Crete, Iraklion, GREECE
Benjamin Bonavida | University of California, Los Angeles, CA - USA
Theresa Brand | Institute of Pharmacology and Toxicology, Würzburg, GERMANY
Saverio Candido | University of Catania, ITALY
Jeng-Jiann Chiu | Institute of Cellular and System Medicine, Zhunan, CHINA
Pasquapina Ciarmela | Polytechnic University of Marche, ITALY
Filomena de Nigris | Precision Medicine University of Campania, Napoli, ITALY
Vito De Pinto | University of Catania, ITALY
Laurent Désaubri | INSERM-Université de Strasbourg, FRANCE
Luca Falzone | National Cancer Institute G. Pascale, Napoli, ITALY
Maria Teresa Fattori | Italian League Against Cancer, Association of Ragusa, ITALY
Christopher Figy | University of Toledo, OH - USA
Giuseppe Gattuso | University of Catania, ITALY
Andrzej Górecki | Jagiellonian University, POLAND
Vivi Kasim | Chongqing University, CHINA
Joseph Kissil | Moffitt Cancer Center, FL - USA
Carmela Lauria | Italian League Against Cancer, Association of Ragusa, ITALY
Massimo Libra | University of Catania, ITALY
Kristina Lorenz | University of Würzburg, GERMANY

CHAIRMEN & SPEAKERS

Kathy Lui | The Chinese University of Hong Kong, CHINA

Olga Martinho | Life and Health Sciences Research Institute (ICVS), Braga, PORTUGAL

Giuseppe Micali | University of Catania, ITALY

Ferdinando Nicoletti | University of Catania, ITALY

Gülperi Öktem | EGE University, Bornova Izmir TURKEY

Massimo Papale | Policlinico Hospital Foggia, ITALY

Francesco Pappalardo | University of Catania, ITALY

Bum-Joon Park | Pusan National University, Pusan, SOUTH KOREA

Graziano Pesole | University of Bari, ITALY

Alexandre Ramos | Universidade de São Paulo, São Paulo, BRAZIL

Valentina Rapozzi | University of Udine, ITALY

Marsha Rosner | University of Chicago, IL - USA

Aurora Scalisi | Italian League Against Cancer, Association of Catania, ITALY

Demetrios Spandidos | University of Crete, GREECE

Guangchao Sui | Northeast Forestry University, Harbin, CHINA

Anna Elisa Verzi | University of Catania, ITALY

Silvia Vivarelli | University of Messina, ITALY

Xiaojian Wang | Zhejiang University, CHINA

Sally E. Wenzel | University of Pittsburgh, PA - USA

Kam Yeung | University of Toledo, OH - USA

Apostolos Zaravinos | European University Cyprus, CYPRUS



For scientific information please contact:

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Generously supported by:

Battersea & Bowery Advisory Group



Conference Center

*Four Points
by Sheraton Catania Hotel*

Via Antonello Da Messina, 45
95021 | Aci Castello
CATANIA

How to reach the Symposium venue:

Catania Airport "Vincenzo Bellini"
at 17 km from the Convention Center.
You will reach the Four Points by
Sheraton Hotel by Taxi



International Conference



Scientific Secretariat:

SCIENZE BIOMEDICHE
E BIOTECNOLOGICHE



Organizing Secretariat:

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