# 10<sup>th</sup> Annual Scientific conference of

Istituto Toscano Tumori (ITT)

### MOLECULAR BASIS OF PROGRESSION IN PANCREATIC CANCER

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Pancreatic ductal adenocarcinoma (PDAC) is the fifth most common cause of death by cancer in the western world. Because of the anatomic localization of the pancreas and the delay of clinical symptoms, PDAC is detected in 85% of patients at advanced stage.





### Background



### Epithelial cells (PDAC)

#### Stromal Cells

However, because PDAC usually exhibits an intense desmoplastic reaction, the molecular study of the entire tumor may not reflect the real levels of some gene expressions.



Several studies showed that the inflammatory and fibroblast cells in the stromal tissue, which represents the body's normal attempt to fight transformed cells, were characterized by different levels of gene expression pattern with respect to tumor cells.

# Primary Cell Cultures



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### Laser Microdissection

Unregistered HyperCam 2



### Orthotopic Mouse Model Specimens



### CYB5A AND CHROMOSOME 18



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### Autophagy Modulators



### MICRORNA (miR-21)



### c-Met Oncogene



University of Pisa, Italy

### Our ITT Project

#### **IPMNs and PDACs Lesions**







Quantification of MUCs and some mRNAs inibiting their expression



Mutation Analyses of 20 most import gene involved in cancer progression



Best Supportive Care

Statistical Analyses Best Biological Markers

New Chip tayroled for IPMN (Best Significant Markers)

Division of Surgical Pathology, Department of Surgical, Medical, Molecular Pathology and Emergency Medicine, University of Pisa, Italy

SEQUENO

### Pancreas Unit

#### Surgey

Prof. Ugo Boggi Dr. Fabio Caniglia Dr. Francesca Costa Dr. Nelide Delio Dr. Vittorio Perrone Dr. Fabio Vistoli

### <u>Radiology</u>

Prof. Carlo Bartolozzi Dr. Carla Cappelli Dr. Salvatore Mazzeo



#### Imperial College London

#### Pathology

Prof. Daniela Campani Dr. Niccola Funel Dr. Luca E. Pollina Dr. Pinuccia Faviana

### <u>Pharmacology</u>

Dr. Elisa Giovannetti

#### <u>Oncology</u>

Prof. Alfredo Falcone Dr. Chiara Capparello Dr. Sara Caponi Dr. Enrico Vasile