The International Cooperation Program: IMMUNOCAN

Chunmei Cao

Fudan University Shanghai Cancer Center
Funded by European Commission (FP7 INCOLAB 7.2)

2 million euros (from 2012 to 2015)

Main objective: Toward enhancing activities of European institutions in the Fudan University Shanghai Cancer Center in China

5 partners
Structure and workpackages

WP1
Increasing knowledge exchanges between Europe and China in the field of cancer prognosis

WP2
Enhancing the research capacity and the competences transfer to the joint institute

WP3
Strengthening and expanding a Euro-Chinese reference laboratory in cancer prognosis

WP4
Promoting a Euro-Asian leading center on cancer prognosis

WP5
Coordination/management
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<tbody>
<tr>
<td>Summer schools</td>
<td><strong>Immune cells phenotyping using flow cytometry</strong></td>
<td></td>
<td><strong>Transcriptome data mining as support for personalized cancer medicine</strong></td>
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<td>International Conference (2 days)</td>
<td><strong>1st Sino-Euro Expert Conference on Immune Biomarkers for Personalized Medicine in Oncology</strong></td>
<td></td>
<td><strong>2nd Sino-Euro Expert Conference on Immune Biomarkers for Personalized Medicine in Oncology</strong></td>
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<td>Immunocan Workshop</td>
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<td><strong>1st Immunocan Workshop</strong></td>
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<td><strong>2nd Immunocan Workshop</strong></td>
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WP1

Increasing knowledge exchanges between Europe and China in the field of cancer prognosis

IMMUNOCAN Kick Off meeting, FUSCC, China, 2012
WP1

Increasing knowledge exchanges between Europe and China in the field of cancer prognosis
WP1
Increasing knowledge exchanges between Europe and China in the field of cancer prognosis

IMMUNOCAN Conference, FUSCC, China, 2013
1st Sino-Euro Expert Conference on Immune Biomarkers for Personalized Medicine in Oncology
WP1
Increasing knowledge exchanges between Europe and China in the field of cancer prognosis
WP2
Enhancing the research capacity and the competences transfer to the joint institute

- Set up new platform
- Technique transfer
- Joint postdoc (China and Denmark)
WP2
Enhancing the research capacity and the competences transfer to the joint institute

Set up new plateform

FACS Canto II

Luminex 200

2012-05-22
2012-10-23
WP3
Strengthening and expanding a Euro-Chinese reference laboratory in cancer prognosis

General approach for the cohort study design

Clinical needs

Discovery

Computational integration

Predictors of treatment success

Enhanced treatment strategy

Immune cells phenotyping
Transcriptomics
Proteomics

Enhanced treatment outcome measurement

New hypothesis

Personalized medicine

New biomarker

Biomarker validation
Personalized Medicine

<table>
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<th>Prognostic biomarkers</th>
<th>Predictive biomarkers</th>
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<td>CRC stage IV</td>
<td>Survival (2y)</td>
<td>Response to FOLFOX and Xelox</td>
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<tr>
<td>Locally advanced breast cancer</td>
<td>Survival/ Relapse (2y)</td>
<td>Response to neoadjuvant therapy (p=pathological complete response)</td>
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</tbody>
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Strengthening and expanding a Euro-Chinese reference laboratory in cancer prognosis

- Prognostic biomarkers (relapse, survival)
- Predictive biomarkers

**Blood**

- **Immune cells**
  (Transgene, Hannover Medical School, FUSCC)
  - Treg
  - slanDC
  - CD8+ (naives, CM, EM)
  - CD4+ (naives, CM, EM)
  - NKT
  - TriPAL
  - NK (dim, bright)

- **27 circulating factors**
  (Transgene, Istituto Nazionale dei Tumori, FUSCC)
  - IL-10
  - IL-17
  - TNFα
  - INFγ
  - VEGF

- **Biomarker Glycoforms**
  (University of Copenhagen, FUSCC)
  - polyLacNac
  - MUC1
  - STn
  - Tn
  - MUC16
  - STn
  - polyLacNac
To conduct beyond the state-of-the-art research activities on cancer prognosis.

<table>
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<th>Sub WP</th>
<th>Title</th>
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<tr>
<td>3.1</td>
<td>The effects of standard of care on immune cell proportions and cytokine production (CRC)</td>
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<tr>
<td>3.2</td>
<td>The predictive value of activated NK (aNK) cells and cytokine production (CRC)</td>
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<td>3.3</td>
<td>Interaction between natural killer and slan-dendritic cells (CRC)</td>
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<td>3.4</td>
<td>Predictive and prognostic values of Immune cells proportions and cytokine levels in locally advanced cancer patients with neoadjuvant chemotherapy (LABC)</td>
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<td>Analysis of NK cells in locally advanced HER2 positive breast cancer patients treated by Paclitaxel+carboplatin +/- Trastuzumab in first line of neoadjuvant chemotherapy (LABC)</td>
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<td>3.6</td>
<td>Circulating biomarker glycoprofiling and cell surface glycosylations</td>
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<td>Neutrophil infiltration in residual surgical tissue on LABC</td>
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<td>CRC stage IV</td>
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<tr>
<td>Ethical approval</td>
<td>OK</td>
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<tr>
<td>Sample collection</td>
<td>OK</td>
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<tr>
<td>Standard protocols writing and validation</td>
<td>OK</td>
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<tr>
<td>Scientific bench work</td>
<td>OK</td>
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<tr>
<td>Data analysis</td>
<td>Almost Finished (2 years survival)</td>
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<tr>
<td>Clinical data collection, validation, database setup</td>
<td>Almost Finished (2 years survival)</td>
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<tr>
<td>QA/QC procedures</td>
<td>OK</td>
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<tr>
<td>Publications</td>
<td>Ongoing</td>
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Summary

WP1
Increasing knowledge exchanges between Europe and China in the field of cancer prognosis

WP2
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WP5
Coordination/management
Perspective

- Increasing knowledge exchanges between Europe and China

- Strengthening and expanding the Euro-Chinese cooperation in cancer field

- Application of new joint grants from European Commission
谢谢，Merci, Danke, Grazie, Tak!