

OPEN BILATERAL INNOVATION FORUM

within the bilateral German-Tunisian
Science & Technology Project

CS-EDIM

**Cancer-specific early stage tumor detection in
blood monocytes using novel diagnostic antibodies**

co-funded by the

German Federal Ministry of Education and Research (BMBF)

and the

Tunisian Ministry of Higher Education and Scientific Research (MESRS)

in the frame of the TunGer2+2 program aimed at funding strategic projects
with the participation of industry and science from both countries



Purpose

This site is designed to inform on subjects and progress of ongoing activities and to inform in a regularly updated manner on events associated with the project.

As the funding institutions state,

“The Innovation Forum aims to develop a concrete long-term partnership between the German and Tunisian project partners as well as a broad transnational network with further German research and education institutions and innovative companies as well as with corresponding institutions in Tunisia to initiate future research cooperation or business relations. “

Although the original concept describes that

“the Innovation Forum should include several smaller events to be held in Tunisia or in Germany and one final public event to be conducted in Tunisia”,

the current Corona crisis and the resulting restrictions in travelling and assembling will force us to mostly convert the intended activities from personal meetings to online formats such as video conferences.

Long-term goals for the output of the Innovation Forum will be

“a jointly elaborated strategy for the development of new products, applications and procedures for a sector, sector or technology-specific cooperation between science, business, politics and society across the entire innovation chain as well as a corresponding action plan.”

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Research & Development Aims of CD-EDIM

Central objective of the collaborative project is the development of a novel biomedical diagnostic technique with the ability to detect early indications of solid cancers such as colorectal carcinoma (CRC) and prostate carcinoma (PCa) as well as to monitor the success of anti-tumor therapy by a convenient flow cytometric test starting from patient blood.

It rests on the application of the recently introduced EDIM (Epitop detection in monocytes) technique which can sensitively identify two global cancer markers (TKTL1/Apo10) in blood monocytes. The outcome of this project will enable clinicians and diagnostic laboratories to not only detect the presence of cancerous lesions as such by their markers in monocytes, but also the character of the malignancy (here: CRC and PCa, additional ones in a later stage) by detection of tumor entity-specific antigens, thereby increasing the by now reachable reliability of the EDIM results and specifying the present early stage occult cancerous lesion. The collaborative project aims at strengthening, widening and further advancing German-Tunisian co-operation and synergy in research and development. It will integrate small enterprises on both the German and Tunisian side into a consortium to establish a long-term research and development collaboration with attractive perspectives in both science and business.

Current State of the Art

On the German side, the two partners University Hospital Jena and INVIGATE GmbH have embarked on their sub-projects in October 2019. As of March 2022, several candidate antigens have been identified and produced as recombinant proteins and used to raise novel monoclonal antibodies to CRC-associated antigens. A range of these novel antibodies have been thoroughly characterised and were shown to preferentially or even specifically recognise intestinal and/or colorectal cancer tissue.

On the Tunisian side, the start of the project has been delayed, mainly as a consequence of the Corona crisis. Since 2021, the Tunisian partners are active in studying the potential of novel antibodies to CRC obtained from the German partners in immunohistochemistry-based diagnosis of CRC.

Events

For obvious reasons, meetings and other events in the “traditional” format which had been originally planned for 2020 had to be cancelled. On top of this, only two out of four partners within the TunGer 2+2 consortium had the chance to work on their sub-projects in 2020. Since 2021, however, most of the obstacles could be overcome, and all participants are fully active and can pursue their aims. This is also reflected by interactive events (though still only via video) which took place and are planned for the future.

Recent Events

May 19, 2021: Discussion of current work at German partners and associated companies
Participants: University Hospital Jena, INVIGATE GmbH, ImmunoTools GmbH

June 17, 2021: Conference for all TunGer2+2 partners in Germany and Tunisia, Exchange on achieved results, discussion on plans and perspectives for the near future

Sept. 2, 2021: Follow-up conference and Video Workshop

Mar. 7, 2022: Video Workshop on EDIM and novel approaches

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