

2025 Thematic R&D Funding Scheme – Key R&D Projects

(In Response to National Needs)

Application Guide for the Field of Traditional Chinese Medicine and General Health

I. Background

To give full play to Macao's distinctive strengths and resources in basic and applied research in Traditional Chinese Medicine (TCM), and to enhance R&D capabilities and the level of industrialization, the Science and Technology Development Fund (FDCT), based on consultations with local researchers and the support of Mainland experts, has formulated this key R&D guide. The guide focuses on TCM-based immunoregulation and other advantageous areas, aiming to elevate Macao's research capacity in the general health industry of TCM, drive high-quality development of the TCM industry, address national needs by leveraging Macao's strengths, support the building of the Guangdong-Hong Kong-Macao Greater Bay Area as an international science and technology innovation center, and promote moderate economic diversification in Macao.

II. Overall Objective

Through the implementation of this R&D project, Macao's strengths in TCM talents and technologies will be harnessed, and multidisciplinary advanced technologies will be integrated to provide scientific evidence for traditional TCM efficacy. The project will promote the transformation of original scientific research achievements in Macao, facilitate the R&D of general health products with immunoregulatory functions, lay the foundation for the development of innovative TCM drugs, and accelerate the modernization of TCM and the high-quality development of the TCM general health industry in Macao.

III. Research Focus

Theme: TCM Efficacy and Immunoregulation

The research shall focus on critical scientific issues such as immunoregulatory mechanisms, molecular mechanisms, and material basis of heat-clearing or vital energy (Qi)-tonifying Chinese medicines. By employing artificial intelligence, humanized animal models, organoid models, and multi-omics technologies, the research shall

explore the efficacy and immunoregulation mechanisms of TCM, decipher the scientific principles of immunoregulation by heat-clearing or Qi-tonifying Chinese medicines, and develop TCM-based immunoregulatory health products or novel drugs to empower the development of Macao's TCM industry.

Assessment Indicators:

1. **Theoretical Achievements:** Clarify the scientific characteristics and mechanisms of at least three heat-clearing or Qi-tonifying TCMs and at least one related compound formula, and identify the material basis for efficacy; publish no fewer than 10 papers in JCR Quartile 1 journals.
2. **Product Development:** Develop at least three immunoregulatory health products and launch them on the market; or complete preclinical R&D of at least one novel drug and file for IND application.
3. **Intellectual Property:** Apply for or be granted at least five related invention patents.

IV. Application Requirements

1. The leading institution must be based in Macao and must collaborate with a national-level research institution in the Mainland. If enterprises participate in the project, they must contribute supporting input of no less than 10% of the funded amount.
2. The project implementation period is four years. The maximum funding per project is MOP 15 million.

V. Experts Participating in Guide Preparation

- **Liu Zhongqiu**, Professor, Guangzhou University of Chinese Medicine
- **Gao Hao**, Professor, Jinan University
- **Sun Yang**, Professor, Nanjing University
- **Wen Lei**, Professor, The First Affiliated Hospital of Zhejiang Chinese Medical University
- **Jin Jing**, Researcher, Institute of Materia Medica, Chinese Academy of Medical Sciences