



MARIA TSOUMAKIDOU

Dr Tsoumakidou is a medical doctor, board-certified respiratory physician and independent researcher (group leader) at the Biomedical Sciences Research Center "Alexander Fleming".

As a medical trainee, she worked on human studies by integrating in vivo immunophenotyping approaches and ex vivo functional immunologic assays. Her initial research focused on characterizing the cellular and molecular immunological microenvironment of the bronchi and alveoli of patients with chronic obstructive pulmonary disease. As an early career researcher, she received multiple Awards from the Hellenic Thoracic Society and the European Respiratory Society.

T cells are primed by professional antigen presenting cells, in specific the dendritic cells. Therefore, she pursued a post-doc at Lung Pathology, Imperial College, London, where she focused on integrating cellular and molecular bronchial biopsy imaging data in order to investigate whether the lung microenvironment of patients with obstructive disorders alters pulmonary dendritic cells. Her follow-up studies as an independent investigator at the University of Athens, helped her establish a pathogenetic link between cigarette smoke-induced disorders and immune suppression via tolerogenic dendritic cells and shed light to the mechanisms of intrapulmonary lymphoid follicle formation in patients with chronic obstructive pulmonary disease. Important milestones in this period were publications in esteemed respiratory and immunology journals and several Research Grants awarded from the Hellenic Thoracic Society Research. Her overall work and contribution to the field of medicine and research was recognized and awarded in 2015 the Clinical and Research Excellence Award by the Hellenic Thoracic Society.

Over the last 4 years, Dr Tsoumakidou's research has focused on the identification of some of the mechanisms through which cancer cells suppress dendritic cells to evade adaptive immunity and to develop novel cancer immunotherapeutics. Her laboratory conducts patient-centered translational research, organized in two interconnected levels: phenotypic and functional analysis of the human system to construct hypothesis, in vivo perturbations to the mouse system to comprehend mechanisms. In 2018 she was awarded a prestigious grant funded by the Hellenic Foundation for Research and Innovation (HFRI 1289), to develop a novel dendritic cell vaccine against lung cancer neoantigens. Dr. Tsoumakidou has published over 30 primary research articles in peer-reviewed journals (>1200 citations, h-index 19 Source: Google Scholar).

Recent Publications

Kerdidani D, Chouvardas P, Rocanin Arjo A, Giopanou I, Ntaliarda G, Yu Guo A, Tsikitis M, Kazamias G, Potaris K, Stathopoulos G, Zakynthinos S, Kalomenidis I, Soumelis V, Kollias G, Tsoumakidou M. Wnt1 silences CC/CXC motif chemokine genes in dendritic cells and induces adaptive immune resistance in lung adenocarcinoma. Nat Commun (under revision)

Kerdidani D, Magkouta S, Chouvardas P, Karavana V, Glynos K, Roumelioti F, Zakynthinos S, Wauters E, Janssens W, Lambrechts D, Kollias G, Tsoumakidou M. Cigarette Smoke-Induced

Emphysema Exhausts Early Cytotoxic CD8+ T Cell Responses against Nascent Lung Cancer Cells. J Immunol. 2018;201(5):1558-1569.

Tsoumakidou M*, Tousa S, Semitekoulou M, Panagiotou P, Panagiotou A, Litsiou E, Morianos I, Trochoutsou A, Konstantinou M, Potaris K, Footitt J, Mallia P, Zakynthinos S, Johnston S and Xanthou G*. Tolerogenic signaling by pulmonary CD1c+ dendritic cells induces regulatory T cells in patients with chronic obstructive pulmonary disease by IL-27/IL-10/inducible costimulator ligand. J Allergy Clin Immunol 2014;134(4):944-954. *co-correspondence

Litsiou E, Semitekoulou M, Galani IE, Morianos I, Tsoutsas A, Kara P, Rontogianni D, Bellenis I, Konstantinou M, Potaris K, Andreakos E, Sideras P, Zakynthinos S, Tsoumakidou M. CXCL13 production in B cells via Toll-like receptor/lymphotoxin receptor signalling is involved in lymphoid neogenesis in chronic obstructive pulmonary disease. Am J Respir Crit Care Med. 2013;187:1194-202.

Tsoumakidou M. The crucial task of defining a healthy immune response toward respiratory infections. J Allergy Clin Immunol. 2013;131(4):1260.