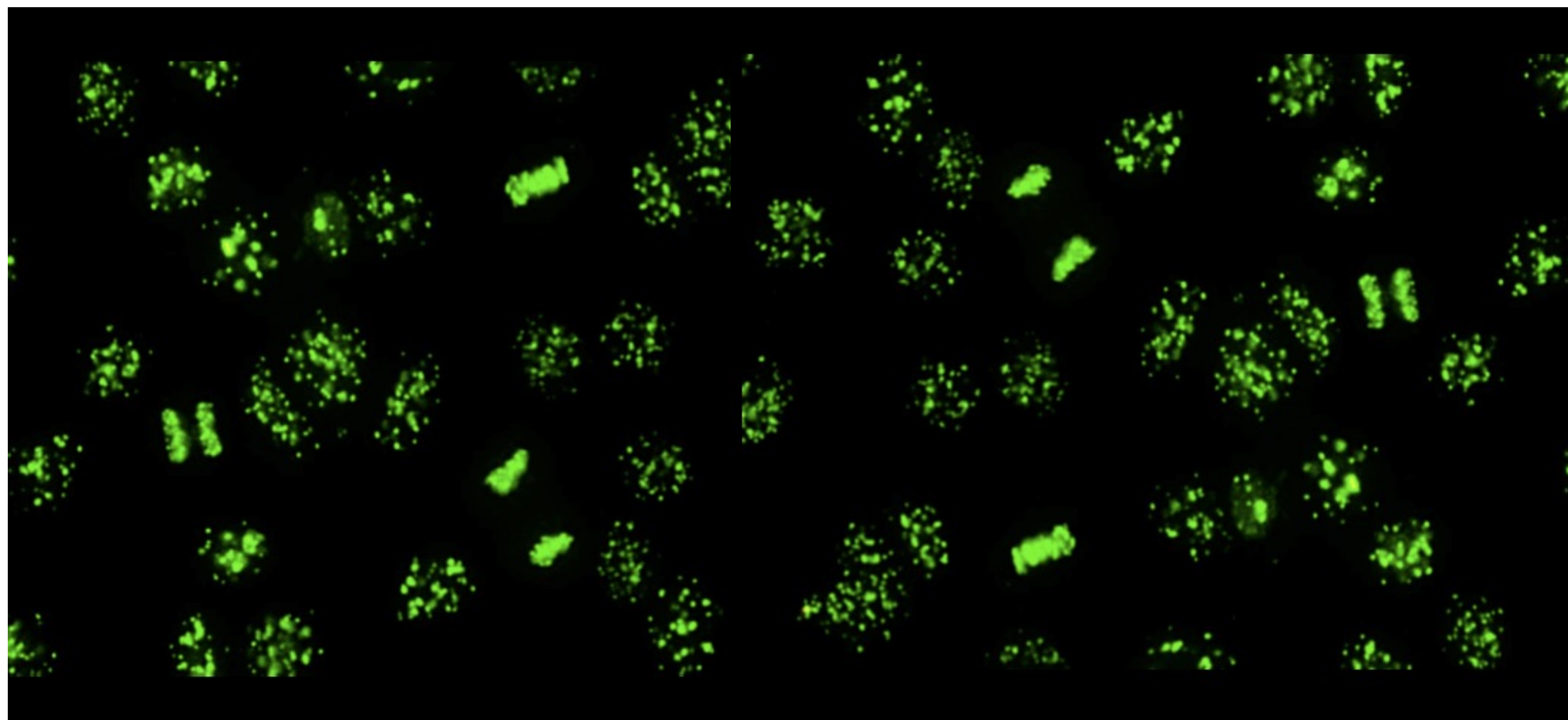


Autoimmunity Lab



General description of the activities

Research laboratory and advanced research and diagnostics laboratory for the study of autoantibodies and autoreactive T clones during autoimmune diseases.

Role	Name	Position	E-mail	Publications	Keywords
Lab head	Prof. Maurizio Sorice	Full professor	maurizio.sorice@uniroma1.it	https://pubmed.ncbi.nlm.nih.gov/?term=maurizio+sorice&sort=date	Autoimmunity Lipid rafts Autophagy Apoptosis
Lab members	Prof. Tina Garofalo	Associate Professor	tina.garofalo@uniroma1.it	https://pubmed.ncbi.nlm.nih.gov/?term=tina+garofalo&sort=date	Lipid rafts Autophagy Apoptosis Autoimmunity
	Dr. Valeria Manganelli	RTDB	valeria.manganelli@uniroma1.it	https://pubmed.ncbi.nlm.nih.gov/?term=valeria+manganelli&sort=date&page=1	Lipid rafts Autophagy HMGB1 Autoimmunity
	Dr. Gloria Riitano	RTDA	gloria.riitano@uniroma1.it	https://pubmed.ncbi.nlm.nih.gov/?term=gloria+riitano&sort=date	Autoimmunity Antiphospholipid syndrome LRP Autophagy
	Dr. Tuba Rana Caglar	PhD student	tubarana.caglar@uniroma1.it	https://pubmed.ncbi.nlm.nih.gov/37508554/	Lipid rafts Autophagy HMGB1 Autoimmunity

Previous and current research

The Autoimmunity Lab is aimed to study the pathogenic mechanisms of autoimmune diseases, with main focus on Antiphospholipid Syndrome, Systemic Lupus Erythematosus and Rheumatoid Arthritis. In particular, previous research in this field analyzed the signaling transduction pathways acting through lipid rafts involved in the pathogenesis of Antiphospholipid Syndrome and clarified the role of apoptosis and/or autophagy in the autoimmune response. In this concern, autophagy, a highly conserved eukaryotic cellular recycling process which plays important roles in cell survival and maintenance, was also shown to trigger enzymatic activities leading to post-translational modifications of proteins. Recently, the role of exosomes and extracellular vesicles as vehicle of autoantigens were investigated.

In addition, the Autoimmunity Lab is aimed to investigate "new" antigenic targets and autoantibody specificities in autoimmune diseases. In particular, previous research in this field prompted to identify "new" biomarkers for diagnosis of Antiphospholipid Syndrome, Systemic Lupus Erythematosus and Rheumatoid Arthritis.

The Autoimmunity Lab develops research projects in cooperation with international groups, including The Lupus Unit at King's and St Thomas' School of Medicine, London, UK, the Queen Mary, University of London and the Institut d'Investigacions Biomèdiques de Barcelona.

Selected Publications

Carbamylation of β 2-GPI generates new autoantigens for Antiphospholipid Syndrome: a new tool for diagnosis of "seronegative" patients. *Rheumatology*. 61: 4187-4197, 2022.

Signal transduction pathway involved in platelet activation in immune thrombotic thrombocytopenia after COVID-19 vaccination. *Haematologica*. 107:326-329, 2022.

Non-criteria antiphospholipid antibodies": bridging the gap between seropositive and seronegative Antiphospholipid Syndrome. *Rheumatology* 61:826-833.

Effect of Heparanase inhibitor on Tissue Factor overexpression in platelets and endothelial cells induced by anti- β 2-GPI antibodies (*J Thromb Haemost.* 19: 2302-2313, 2021).

Raft-like lipid microdomains drive autophagy initiation via AMBRA1-ERLIN1 molecular association within MAMs. *Autophagy* 17:2528-2548, 2021.

Different domains of β 2-glycoprotein I play a role in autoimmune pathogenesis. *Cell Mol Immunol* 17:1210-1211, 2020.

Autophagy induces protein carbamylation in fibroblast-like synoviocytes from patients with rheumatoid arthritis. *Rheumatology* 57: 2032-2041, 2018.

Evidence for the involvement of lipid rafts localized at the ER-mitochondria associated membranes in autophagosome formation. *Autophagy* 12: 917-935, 2016

Autophagy generates citrullinated peptides in human synoviocytes: a possible trigger for anti-citrullinated peptide antibodies. *Rheumatology* 55: 1374-1385, 2016.

Evidence for the involvement of GD3 ganglioside in the autophagosome formation and maturation. *Autophagy* 10: 750-765, 2014.

Autoantibodies specific to a peptide of β 2-glycoprotein I cross-react with TLR4 inducing a pro-inflammatory phenotype in endothelial cells and monocytes. *Blood* 120: 3360-3370, 2012.

Advanced glycation end products of human β 2glycoprotein I modulate the maturation and function of DCs. *Blood* 117: 6152-6161, 2011.

Vimentin/cardiolipin complex as a new antigenic target of the antiphospholipid syndrome. *Blood* 116: 2960-2967, 2010.

Grants/Projects/Open Positions/Conferences

Grants and Projects:

Prin 2022 PNRR, Prin 2022, Prin 2020, Prin 2017 to Prof. Maurizio Sorice

MIUR Italy – Spain to Prof Maurizio Sorice

Prin 2022 to Prof. Tina Garofalo

Conferences: Ten Topics in Rheumatology

Links

X Platform - @LabSorice

Scientific picture