



Heart Failure & Arrhythmias



Pulmonary Hypertension
& Thrombosis



Atherosclerosis
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

Focus of research group (I)

Name PI: Esther Lutgens (e.lutgens@amc.uva.nl)

Department, UMC, Medical Biochemistry, AMC

Size of research group: 8 PhDs, 4 PD, 1 staff, 3 techs (2 fte)

Current mission, vision and aims

To better understand the role of the immune system in atherosclerosis and the metabolic syndrome.

Discover novel immunotherapeutic targets for CVD, design and test potential therapeutics.

Focus on immune checkpoints (**CD40, GITR, CD27, CBL-B**) and their signaling intermediates (**TRAFs, NFkB**)



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Focus of research group (II)

Current expertise

Mouse models of atherosclerosis, diet induced obesity, EAE
Immune system: FACS, sorting, cell culture, luminex
Histology and morphometry, pathology
Drug design: in collaboration with G. Nicolaes (UM)

Collaboration in ACS

Menno de Winther
Mat Daemen
Stephan Huveneers
Erik Stroes, Jeffrey Kroon
Ex ACS: Willem Mulder, Niels van Royen

Current funding

ERCcon, VICI, GENIUS II (CVON)



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Future plans

Short term (1-2 year) plan

Cell type specific functions of CD40 in atherosclerosis and obesity

CD40-TRAF6 compound: first in human

Validation of CD40-TRAF2 compounds

Cell type specific role for CBL-B in CVD, design of CBL-B agonist

Side effects of cancer immunotherapy

Long term (>2 year) plan

Identify the immune (checkpoint) landscape in hyperlipidemia in murine models and humans: regulators, novel checkpoints, therapy.

- CyTOF
- (Single cell) RNAseq
- Metabolomics

Checkpoint ATHERO (leDucq)

TURNOVER (Zwaartekracht)

Cardio-oncology (Tom Seijkens)