



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

**Expertise,
technologies and
infrastructures
available in your
institution:**

Research activities / expertise: Arteriosclerosis research, HDL-associated lipids, Proteoglycans and Extracellular Matrix

Methods: Biochemistry, Molecular Biology, Cell culture, Radioactive isotope technology

Key technologies: Cellular signal transduction, gene activation and transcription

Infrastructures: The Leibniz-Institute of Arteriosclerosis Research consists of 7 cooperating Departments (see Website)

Key publications:

Schmidt A, Echtermeyer F, Alozie A, Brands K, Buddecke E. Plasmin- and Thrombin-accelerated Shedding of Syndecan-4 Ectodomain Generates Cleavage Sites at Lys¹¹⁴-Arg¹¹⁵ and Lys¹²⁹-Val¹³⁰ Bonds. J Biol Chem 2005;280(41):34441-6

Schmidt A, Geigenmüller S, Völker W, Buddecke E. The antiatherogenic and antiinflammatory effect of HDL-associated lysosphingolipids operates via Akt→NF-kappaB signalling pathways in human vascular endothelial cells. Basic Res Cardiol 2006;101:109-116

Schmidt A, Lorkowski S, Seidler D, Breithardt G, Buddecke E. TGF-β₁ generates a specific multicomponent extracellular matrix in human coronary SMC. Eur J Clin Invest 2006;36:473-482

Assmann G, Nofer JR. Atheroprotective effects of high-density lipoproteins. Annu Rev Med 2003;54:321-41

Nofer JR, van der Giet M, Tölle M, Wolinska I, von Wnuck Lipinski K, Baba HA, Tietge UJ, Gödecke A, Ishii I, Kleuser B, Schäfers M, Fobker M, Zidek W, Assmann G, Chun J, Levkau B. HDL induces NO-dependent vasorelaxation via the lysophospholipid receptor S1P₃. J Clin Invest 2004;113:569-81

Nofer JR, Geigenmüller S, Göpfert C, Assmann G, Buddecke E, Schmidt A. High density lipoprotein associated lysosphingolipids reduce E-selectin expression in human endothelial cells. Biochem Biophys Res Commun 2003;310:98-103



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

2. Past and present research collaborations

Are you familiar
with the European
Framework
Programme?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> with Framework Programme 5 <input type="checkbox"/> with Framework Programme 6 <input type="checkbox"/> with Framework Programme 7	

EU-projects you are
involved in:
Past projects

Programme title / contract number / title / acronym / your function
(coordinator / partner / contractor)

Present projects

Other international
collaborations:

Principal investigator of a German-Israeli-Foundation for Scientific
Research and Development (GIF) project, 1994-1999

Name(s) and
contact details of
potential partners:

If you would like to suggest the participation of particular partners from the
partner country based on existing contacts or collaboration experience,
you are welcome to indicate their names and contact details below:
Contact with: Prof. Dr. Kemal Baysal, GEBl, Gebze 41470 Turkey.
Correspondence for a joint research program on "Impact of HDL and HDL-
associated lysosphingolipids for prevention and delayed progression of
arteriosclerosis"

3. Presentation at the Workshop

I will give a presentation at the workshop (approx. 10 min.) to present my institution, my
expertise, and my collaboration interests. The contents of my presentations is summarised
below (max. 1 page).

Impact of HDL and HDL-associated lysosphingolipids for prevention and delayed progression of arteriosclerosis

Adhesion of mononuclear blood cells to the vascular endothelium and their subsequent
transmigration into the arterial wall represent key events in the pathogenesis of atherosclerosis. While
normal endothelium maintains a non-adhesive and antithrombogenic surface the endothelial cells
express and secrete cell adhesion molecules (CAMs) in response to inflammatory mediators such as
TNF-alpha and IL-1 beta capable of promoting the recruitment of mononuclear blood cells across the
endothelial barrier.

In previous studies we and others have found that HDL and HDL-associated lysosphingolipids
(sphingosylphosphorylcholine, lysosulfatide) inhibited the cytokine-induced expression of E-selectin,
ICAM-1 and VCAM-1 and that this suppression was mediated by an EDG receptor-induced activation
of the PI-3K that subsequently activates the protease Akt. Although some studies demonstrated a
requirement of NF-kappaB for complete expression of CAMs the knowledge of a possible interaction
of the EDG/PI-3K/Akt and TNF-alpha-mediated NF-kappaB pathways is not fully understood.
Additional regulatory factors promoting or attenuating inflammatory phases during atherogenesis
have to be identified and characterized.

Our turkish partner (Kemal Baysal, Gebze) will investigate the modulation of the lysophospholipid-
initiated intracellular signalling by the peroxisome proliferator-activated receptor (and its isotypes) as
ligand-activated transcriptional factors and their influence on the regulation of lipid metabolism and
expression of inflammatory cell adhesion molecules.

Aim of the project is the search for anti-inflammatory HDL-associated sphingolipids/lysosphingolipids
or semisynthetic derivatives and HDL-mimicking compounds exhibiting antiatherosclerotic effects.



Participant Profile

for the
Turkish-German Strategy Workshop 2006
TÜBİTAK Marmara Research Center,
Istanbul- Gebze Turkey
13 – 15 December 2006



International Bureau (IB)
of the Federal Ministry of
Education and Research
(BMBF)

I agree with the publication of my data on the Workshop website!

PLEASE FILL IN THIS FORM **UNTIL 22 SEPT. 2006 AND RETURN IT TO:**

Internationales Buero des BMBF
s.krummacher@fz-juelich.de;
Christian.schache@dlr.de

TÜBİTAK-Marmara Research Center
Sunullah.Ozbek@mam.gov.tr;
Artac.Turker@mam.gov.tr