Summary of WP5-work carried out in th first year of CWB-Project WP-leader: Pharmacel

The main aim of WP5 is the synthesis of the organic compounds selected in WP4 and their testing by in vitro models. The outcome of WP5 will be the real pharmacological relevance of the organic compounds selected in WP4.
In the first year of the project the following work has been carried out in WP5:

The partners have started with the development and refinement of different systems needed for in vitro testing and physico-chemical characterisation (e.g. determination of logP, logD, pKa) of the newly synthesised compounds. In vitro assays were designed for cytotoxicity screening on different cell types measuring several independent parameters of toxicity (e.g. metabolic activity, LDH-leakage), analysis using a specified cardiomyocyte-based screening platform allowing investigation of 2-D and 3-D preparations of cardiac tissue and two models for studying atherosclerosis. The first system is an in vitro model of human smooth muscle cells isolated from patients suffering from coronary heart disease and the second one is a perivascular carotid collar model in mice.
To support the isolation and culture of neonatal rat cardiomyocytes, which will be used, amongst others, for cytotoxicity testing, suitable literature and protocols were exchanged by the partners. For the establishment of the cytotoxicity screening, a list of selected reference compounds has been prepared so far. Moreover, some of these reference compounds were already exchanged to start the analysis of specific cardiotoxic effects like QT-prolongation on cardiomyocytes via the multielectrode array-based cardiomyocyte biosensor.