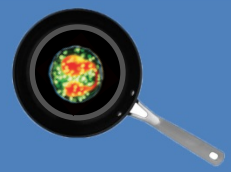




The fight against atherosclerosis

Teflon to upgrade our body armor



What is Teflon?

We all know the Teflon layer that makes sure that the egg that we bake on a Sunday morning will not stick to our pan. I want to use the Teflon concept to upgrade our body armor, but of course I will not use the same material as used in the pan. I want to use biological materials to create Teflon, which will help to protect our body against atherosclerosis.

What is atherosclerosis?

Atherosclerosis is a disease in which plaque arise on the inside of our arteries. The plaque formation is a result of the continuous invasion and accumulation of white blood cells (leukocytes) in the arterial wall. Plaque formation can eventually lead to serious problems, including heart attack, stroke, or even death. At the moment, there are drugs available that block leukocyte recruitment and plaque formation; however, these also impair other inflammatory processes. This is problematic since atherosclerosis often occurs in elderly people who frequently cope with other inflammations, such as in the lung and bladder inflammation.

Complications



Stroke

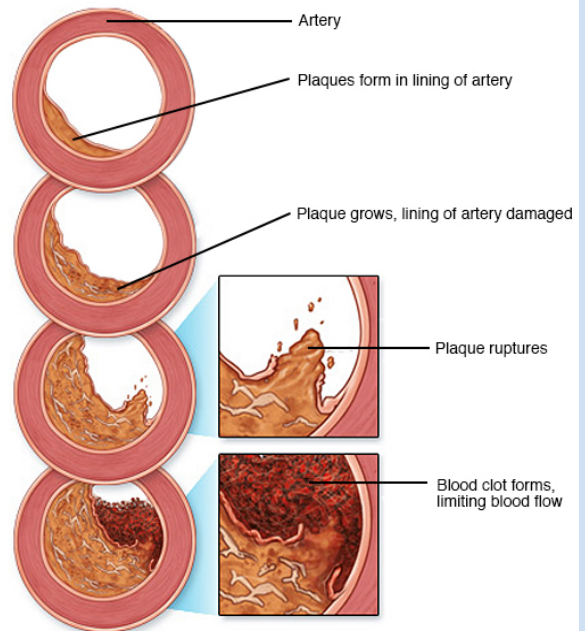
Heart attack

Gangrene



Disease is more prevalent in men than women

Plaque development



What is the ultimate goal?

We aim to inhibit the leukocytes recruitment site-specifically. I want to compose a Teflon layer on the inside of the arterial wall, resulting in the inability of leukocyte to be recruited into the arterial wall. Eventually, this may lead to the prevention of the further development of atherosclerosis and the occurrence of heart attack and strokes.

The researcher behind this project

My name is Sanne Maas, born in the Netherlands, and I am a PhD student at the Institute for Cardiovascular Prevention (IPEK) of the Ludwig-Maximilians-University in Munich. My project is part of EU Marie Skłodowska-Curie Horizon 2020, this means that I collaborate with PhD students from other cities in Europe. This gives us a great opportunity to help and learn from each other. It will take me at least four years to generate the Teflon layer. Every day is a day with new struggles, but also new accomplishments and every day brings me one step closer to creating the Teflon layer.

