

TOBI – Targeting OBesity-driven Inflammation

Finding solutions for a modern epidemic. . .

The increase in the number of obese individuals has reached dramatic dimensions comparable to an epidemic. Unhealthy lifestyle – a major factor underlying obesity – is difficult to change. Obesity-associated complications can be severe and costly, including type 2 diabetes mellitus and atherosclerosis that provoke heart attacks, stroke and kidney failure. Direct costs associated with overweight and obesity already exceed 6% of total health care expenditures in Europe, and additional indirect costs are estimated to be at least twice as high.

The collaborative project TOBI – Targeting OBesity-driven Inflammation – was specifically designed to develop strategies for abatement of obesity-related complications such as diabetes. It was one of the first projects approved by the European Commission within the 7th framework programme and it successfully started in January 2008. It will run for 36 months with a maximal EU funding of €2.98m.

TOBI Research – a cutting edge approach to combat obesity-related diseases

Recently it has been brought to light that chronic inflammation of fat (adipose) tissue can cause both type

2 diabetes and atherosclerosis, two of the clinically most relevant complications. Fat tissue produces specific inflammatory signalling molecules, the so-called adipokines, which mediate:

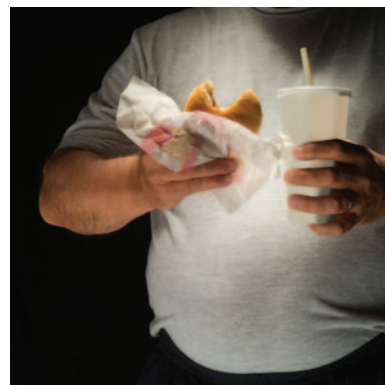
- Disruption of insulin action, resulting in insulin resistance and diabetes development;
- Impaired blood vessel function that increases the risk for cardiovascular disease such as myocardial infarction.

As little is known about the background of these inflammatory processes, TOBI focuses its research on elucidating the molecular mechanisms initiating and promoting inflammation in adipose tissue. This research is anticipated to identify novel target molecules suited to develop specific drugs interfering with adipose tissue inflammation. These potential new drugs are sought to counteract the development of devastating consequences of obesity.

In order to efficiently accomplish TOBI's research programme by sharing resources between project partners, the so-called TOBI Toolbox will be established. This toolbox will consist of analysis standards defined by the consortium and relevant to the

project's objectives, and a TOBI Biobank for sharing human material managed by an online database.

Future application of TOBI standards is expected to provide a valuable basis for European research on obesity in Europe.



TOBI Team – an efficient pipeline from discovery to pharmaceutical exploitation

TOBI pools the expertise of leading European experts from seven academic research institutions, which is complemented by three small and medium-size enterprises (SMEs). The research programme is designed to use appropriate assay systems for the identification of relevant molecules and pathways that can feed the drug development pipeline for the participating SMEs. Hence TOBI aims at translating excellent science efficiently into pharmaceutical exploitation resulting in clinical application.



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(grant agreement no. HEALTH-F2-2007-201608)

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TOBI partners