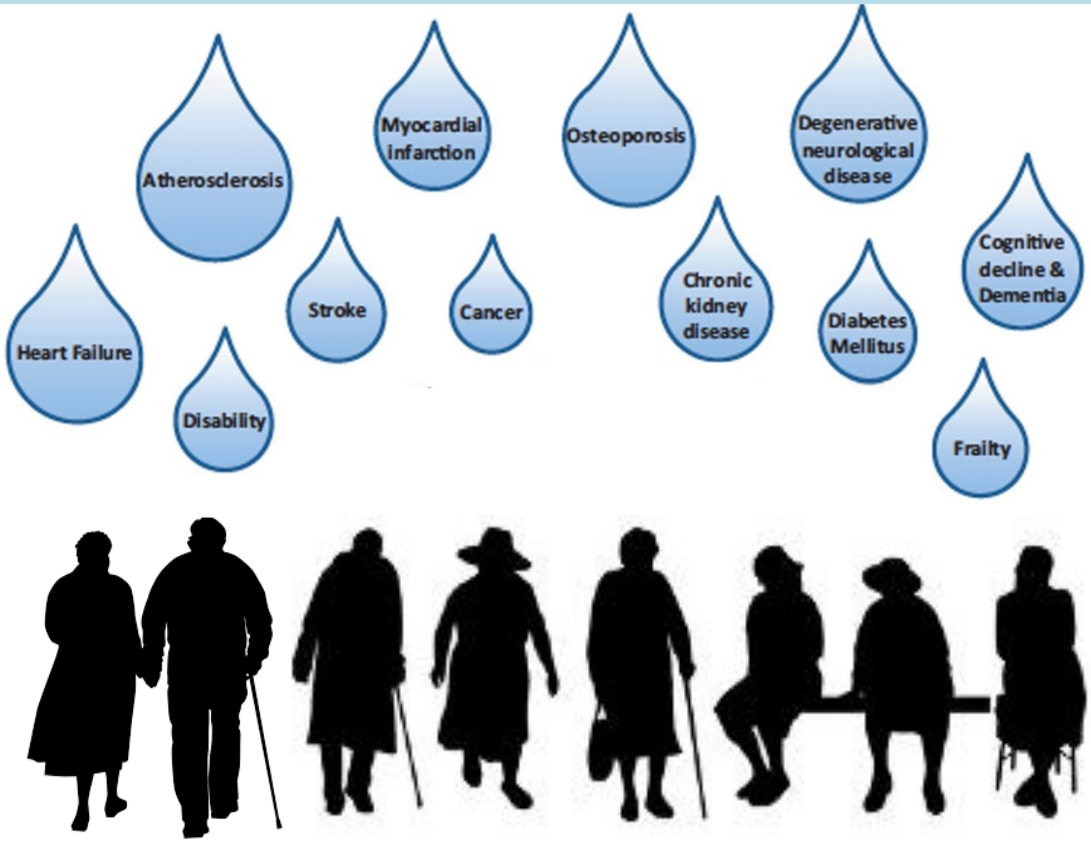
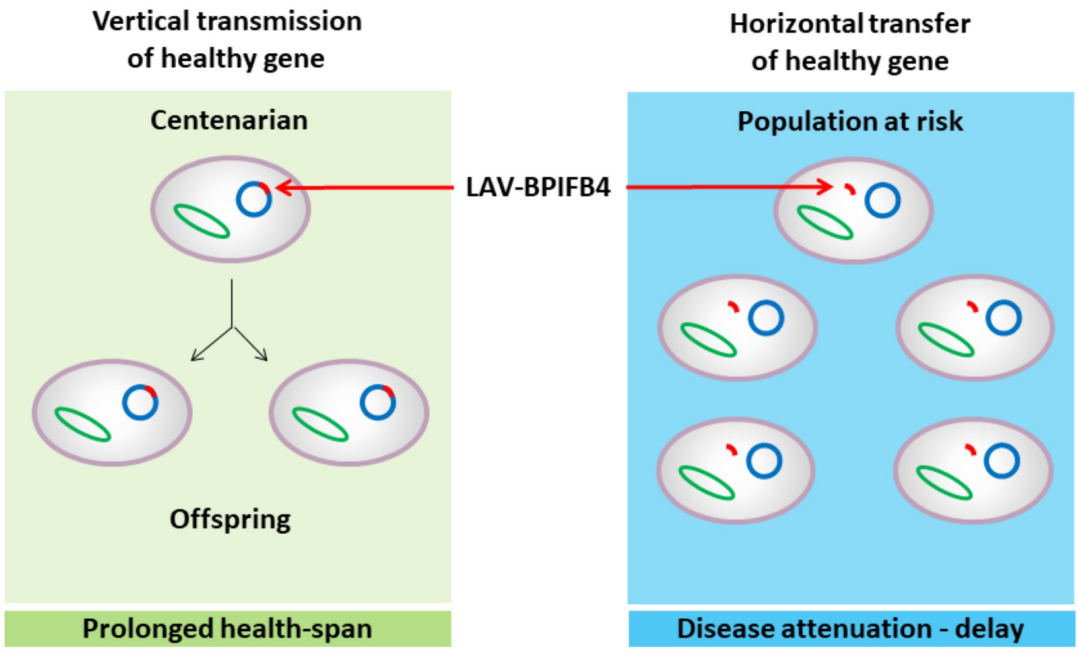
Making the Longevity protein available to all

LGV1 srl is a Spin off Approved by Department of Medicine and Surgery
Università degli Studi di Salerno

The Problem


Atherosclerosis
Myocardial infarction
Osteoporosis
Degenerative neurological disease
Heart Failure
Stroke
Cancer
Chronic kidney disease
Diabetes Mellitus
Cognitive decline & Dementia
Disability
Frailty

The Solution



We propose that it would be possible to compress cardiovascular morbidity and delay whole body frailty in the population at risk by transferring genetic determinants of healthy longevity.

LAV-BPIFB4: Brief Info

BPIFB4 a highly polymorphic gene and one isoform, the Longevity Associated Variant (**LAV**), has been selected by nature to confer protection from stressors: it is enriched in Centenarians' DNA.

→ **LAV-BPIFB4** can be delivered in vivo by gene therapy or by rh-protein produced from mammalian cells (HEK293).

The most important actions:

1) improving of Nitric oxide production by eNOS
2) amelioration of protein homeostasis through interaction with Nucleolin;
3) antinflammatory effects by M1-M2 macrophage skewing trough CXCR4 activation
4) Improvement of platelet aggregation

These **mechanisms of action** in part explain the observed effects of LAV-BPIFB4 in:

1) reduction of infarct area in a model of stroke;
2) recovery of vascularization in limb ischemia trough stem cells homing;
3) protection from atherosclerosis process and a rescue of endothelial dysfunction in atherosclerotic mice models;
4) improvement of cardiac and endothelial function in diabetic and aged mice.

→ Rh LAV-BPIFB4 **can administered orally and it has been successfully tested on human specimens (explanted vessels, cultured endothelial cells, pericytes, and monocytes)**

→ Candidate to be the **first therapeutic target is diabetic critical limb ischemia**

What we have achieved so far:
Patents Owned by LGV 1

Case 1: (Variant of bpifb4 protein)

LAV-BPIFB4 protein with a degree of degeneration, or its fragment, as well as DNA and its fragment for the cure of:

arterial hypertension, atherosclerosis, diabetes mellitus, dyslipidaemia, renal failure, metabolic syndrome, stroke, myocardial infarction, erectile dysfunction, neurodegenerative diseases, multiple sclerosis, cognitive disorders retinal degeneration, uveoretinitis, vascular retinopathy, cataract, glaucoma, coronary spastic angina, thrombosis, pulmonary hypertension, pre-eclampsia, vasculites, venus insufficiency.

Status:

Approved: **Japan, Europe, Australia, USA and China**

Pending: **Canada**

Divisionals in Europe cover the use of the AAV and potentially protein for medical use.

Case 2: (VTFT ISOFORM OF A BPIFB4 PROTEIN FOR USE IN NEURONAL DISEASES AND INJURIES)

(LGV-P2087) for Neurodegenerative diseases (Huntington Disease, Parkinson, Alzheimer, ALS etc.); status pending (in Europe will be approved soon)

Status:

PCT/EP2018/072184

Pending: **Canada, Europe, Australia, USA and China**

The team

Prof. Annibale Alessandro Puca

Full Professor of Medical Genetics at Unversity of Salerno and group leader at IRCCS Multimedica. Founder and CEO of LGV1.

Prof. Carmine Vecchione

Full Professor of Cardiology at University of Salerno, Head of the school of Cardiology at the Medicine Department. Founder of LGV1.

Prof. Paolo Madeddu

Full Professor in Experimental Cardiovascular Medicine
Member of the Bristol Heart Institute steering committee and of the Regenerative Medicine Strategic Group University of Bristol. Collaborator