Optogenetics for the treatment of cardiac arrhythmias (BioRap)

Optogenetics approaches, utilizing light-sensitive proteins, have emerged as unique experimental paradigms to modulate neuronal excitability and have consequentially revolutionized neuroscience.

The group of Dr. Lior Gepstein is developing similar strategies to also control cardiac-tissue excitation by light and consequentially to design new therapeutic measures for different cardiac disorders.

Specifically this group has demonstrated *in vitro* and *in vivo* the ability to pace cardiac tissue following activation of the light-sensitive depolarizing channel Channelrhodopsin-2 and to suppress cardiac tissue electrical activity following activation of hyperpolarizing light-sensitive proteins.

This technology is being explored to target specific cardiac disorders such as different cardiac bradyarrhythmias, tachyarrhythmias, and heart failure with mechanical dyssynchrony.

Contact for more information:

Orit Shaked ✉, CEO of BioRap, +972 4 8295402

1 Efron Street
P.O. Box 9697
Haifa 31096, Israel
Tel: 972-4-829-5402
Fax: 972-4-855-2296