Novel peptide based treatment for cardiac arrhythmias

Novel target and MoA for anti-arrhythmic drugs

Myocardial infarction increases the risk of life-threatening arrhythmia

Sinus rhythm

Ventricular fibrillation

NPY3-35 acts on NCAM - an intercalated disc structural protein

New indication - Cardioversion of atrial fibrillation

Selected current treatments

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Efficacy</th>
<th>Pro-arrhythmia</th>
<th>Price (DKK)</th>
<th>Adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC conversion</td>
<td>70-90%</td>
<td>-</td>
<td>9500</td>
<td>+</td>
</tr>
<tr>
<td>Vernakalant</td>
<td>47-70%</td>
<td>-</td>
<td>4072</td>
<td>+</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>30-70%</td>
<td>-/(+)</td>
<td>500</td>
<td>+</td>
</tr>
<tr>
<td>Ibutilide</td>
<td>31-51%</td>
<td>+</td>
<td>1777</td>
<td>+</td>
</tr>
<tr>
<td>NPY3-35 derivative</td>
<td>High</td>
<td>-</td>
<td>4000</td>
<td>-</td>
</tr>
</tbody>
</table>

Current State

In vitro proof-of-concept has been provided showing anti-arrhythmic effects in the setting of ischemia-reperfusion. Mouse and rat data show that NPY3-35 increases conduction velocity in an NCAM-dependent manner. Next step will be to develop novel NPY3-35-related peptides with increased affinity/efficacy and to broaden the indications for the technology to atrial fibrillation and orphan arrhythmogenic diseases.

Team

Associate professor Morten Schak Nielsen Scientific Advisor & Board Member

Associate Professor David Woldbye Scientific Advisor & Board Member

Professor Thomas Engstrøm Clinical Advisor & Board Member

Business opportunity and Call to action

We seek

• Collaboration for development of novel peptides with improved NCAM affinity, better stability and novel composition-of-matter IPR.
• Soft-funding for Proof-of-Concept in atrial fibrillation and orphan arrhythmogenic diseases (~2 million DKK from primo 2021)
• Partners for business development and company formation including a CEO as co-founder and members for an advisory board.