

10 YEARS OF
BREAKTHROUGHS
A HEALTHIER
FUTURE



HUMAN iPSC-DERIVED CELLS: A POWERFUL TOOL FOR NEUROPATHIC PAIN DISEASE MODELLING

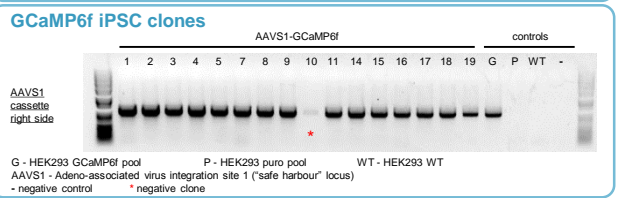
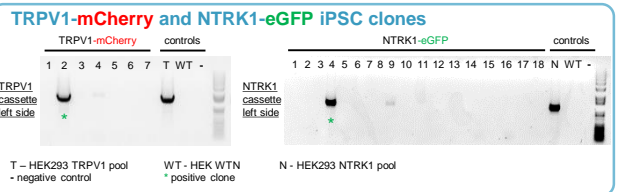
Rutigliano L, Kuhn C, Ricci F, Nitzsche A, Haupt S, Faedo A, Tarroni P, Montag K, Cainarca S, Scarabottolo L

Facts & Figures

Start date	1 April 2017
End date	31 March 2020
Contributions	1,500,000.00
IMI funding	1,500,000.00
EFPIA in kind	1,550,000.00
Total Cost	3,050,000.00
Project website	ngn-pet.com

Results

Screening of iPSC clones by genomic PCR

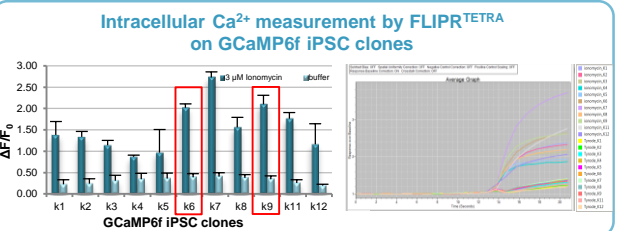


Challenge

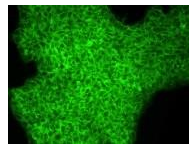
Chronic neuropathic pain (NP) is a condition with highly unmet medical need. Human induced pluripotent stem cell (hiPSC) technology is emerging as a potent tool to understand the pathophysiology of NP and to develop new therapies.



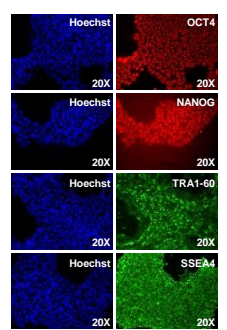
Characterisation of positive clones



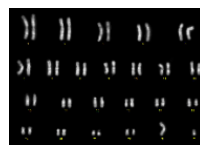
ELF97 phosphatase detection



Immunofluorescence

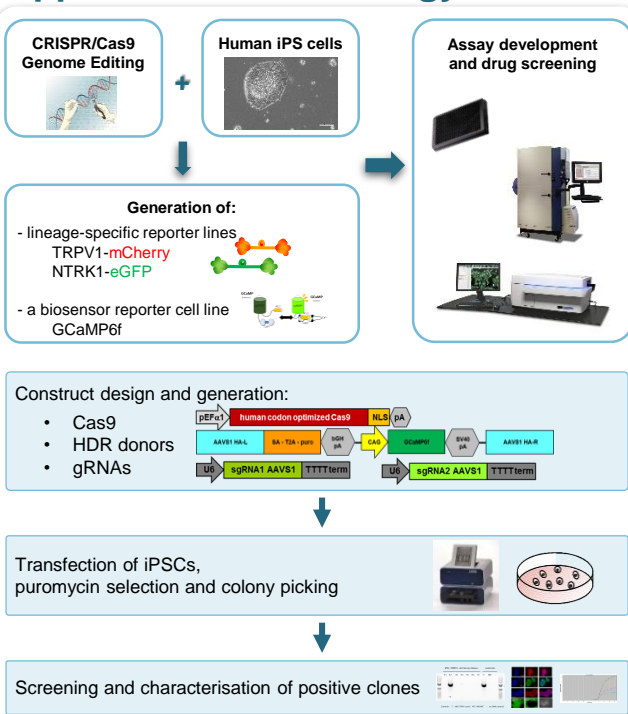


Karyotype by Q-banding



Representative characterisation of GCaMP6f K6 clone

Approach & Methodology



Value of IMI collaboration

Two SMEs (Axxam and Life&Brain) with consolidated expertise in the fields of iPSCs and screening systems, in partnership with academia (KCL, NMI) and pharmaceutical companies (Esteve, Grünenthal) are contributing their knowhow and infrastructure to setting up *in vitro* models for pain research and drug discovery.

Impact & take home message

The generation of reporter iPSC lines will be helpful for understanding the NP-relevant pathways, for establishing a human *in vitro* high content/high throughput screening assay platform and for identifying novel therapeutic molecules for NP.



innovative medicines initiative



This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No 116072. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.