



Report from EFACTS kick off meeting (3-4 May 2010)

Overview

The European Friedreich's Ataxia Consortium for Translational Studies (EFACTS) has been awarded a grant of just under six million Euros by the Seventh Framework Programme FP7 of the European Commission for research into Friedreich's ataxia (FA). The aim of the consortium is to promote translational research into the causes of and possible therapies for FA. Professor Massimo Pandolfo is co-ordinating the project which involves 14 partner groups from different research disciplines across Europe, five of which are from the UK.

A kick-off meeting was held on 3-4 May at which the partner groups outlined their proposed projects. Ataxia UK was invited to the meeting and Sue Millman and Alison Stevenson attended. Representatives from ataxia organisations in other European countries were also present; FASI (Ireland), AFAP (France) and GoFAR (Italy).

Research

There are four main areas of research; clinical; frataxin function; mechanism of frataxin silencing, and biomarkers and other therapeutic strategies. The proposed work for the consortium is aimed at providing the necessary groundwork for the discovery and development of compounds for future clinical trials.

On the clinical side, a European database of people with FA is planned. This will be similar to the euro-SCA database which holds similar information for people with spinocerebellar ataxia (SCA). Systems biology modelling of FA will also be undertaken. This will be done by computer scientists who will create a computer model of FA in a similar way to that which has been done with cancer (where models of intracellular signalling allow predictions to be made about the efficacy of anti-cancer drugs according to the biochemical make up of the cells). This will be the first time that the computer scientists have worked on ataxia.

Frataxin is known to be involved in the formation of iron sulphur cluster proteins and this will be investigated further. Improving mouse models and cell models is also a focus of the frataxin function research area. Collaboration between researchers will involve sharing cell lines and models. Cells developed so far include stable cell lines containing reporter genes that allow frataxin expression to be visualised and quantified (Dr Richard Wade Martins) and induced pluripotent stem cells created



from cells (usually fibroblasts) from people with FA (Dr H el ene Puccio). The mechanism of frataxin silencing continues to be investigated.

Biomarkers are needed for measuring the progression of FA and the efficacy of potential treatments. To do this, their levels need to correspond with the severity and progression of symptoms. Potential biomarkers for Friedreich's ataxia might be cardiac measurements, MRI/MRS brain measurements, frataxin protein or gene expression levels or measures of oxidative stress, but more research needs to be done to establish which is best.

An update of HDAC inhibitors was also given by James Rusche, from the pharmaceutical company Repligen. Repligen has been developing a HDAC inhibitor to take towards clinical trials and is also a partner of the consortium. The preclinical work is nearing completion and Phase I trials, which will initially test the compound in healthy volunteers, are hoped to start soon. It is anticipated that these trials will show proof of principle that HDAC inhibitors can increase frataxin levels.

Summary

Overall this is an ambitious project with a strong focus on collaboration between research groups, which was evident from the groups' interactions at the meeting. The funding for the consortium is being given over four years and there will be regular meetings throughout this time to monitor progress.

This report is written by Ataxia UK's Research Officer, Alison Stevenson and approved by the EFACTS Steering Committee.

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