# Minoryx Therapeutics announces the dosing of first patient in ADVANCE, a phase 2/3 clinical study of MIN-102 in patients with adrenomyeloneuropathy (AMN)

## ADVANCE trial expected to initiate patient recruitment shortly in several other EU countries, followed by the US

**Mataró, Barcelona, Spain, January 4, 2018** - Minoryx Therapeutics, a company specialized in the development of new drugs for orphan diseases, today announces the initiation of treatment of the first two patients in the ADVANCE trial, a pivotal phase 2/3 clinical trial of MIN-102 for the treatment of adrenomyeloneuropathy (AMN). The trial enrolls adult male patients affected by AMN, the most frequent phenotype of X-linked adrenoleukodystrophy (X-ALD).

The first patients were dosed at the Vall d'Hebron University Hospital (Barcelona, Spain) by Dr. Josep Gámez and at the Academic Medical Center (Amsterdam, The Netherlands) by Dr Marc Engelen. Recruitment was also initiated at the Institute of Genomic Medicine and Rare Disorders (Budapest, Hungary) by Dr. Maria Molnar. The ADVANCE trial will be initiated in several other European countries (United Kingdom, Germany, France, Italy and Poland) in the coming weeks and in the US by mid-2018

The ADVANCE trial is a randomized, double-blind, placebo-controlled study with an open-label extension to determine the efficacy and safety of MIN-102, a novel, orally bioavailable and selective PPAR gamma agonist with a superior profile for central nervous system-related diseases and promising *in vivo* efficacy. The primary outcome is to evaluate the efficacy of MIN-102 on the progression of AMN in male patients, as determined by a motor function test. The trial aims to enroll more than 100 patients and results are expected at the end of 2020.

The trial was designed based on input from Minoryx's scientific advisory board, comprised of internationally renowned EU and US clinical experts in X-ALD, (including Dr. Patrick Aubourg, Dr. Marc Engelen, Dr. Florian Eichler and Dr. Gerald Raymond). Additional advice was also obtained from major patient advocacy groups. The design and endpoints were finalized following regulatory interactions with the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA).

"We have been working closely with Minoryx on the design of this study and in the elucidation of the natural progression of the disease. We are delighted to be among the first sites to dose an AMN patient with MIN-102," said Dr. Marc Engelen.

"We are proud to be among the first sites in this trial. The proximity to Minoryx's 'homebase' in Barcelona allowed us to work closely with the company's scientists during the planning phase," said Dr. Josep Gámez, coordinator of the department of neurology at the Vall d'Hebron University Hospital.

"The ADVANCE trial is the result of a successful collaboration between scientists, clinical experts and patient associations. MIN-102 brings new hope to patients suffering from AMN, a disease for which no treatment currently exists," said Dr. Wolfgang Köhler, head of the Department of Neurology, St Georg Clinic in Leipzig, Germany, and principal investigator of the study.

"We have worked and interacted closely with major regulatory authorities and have benefited greatly from their guidance in the design of this trial," said Dr. Uwe Meya, CMO of Minoryx. "The clinical sites that are participating in this study are the leading expert sites for this orphan disease. We would like to take this opportunity to thank the care-givers, the patients and their families for their continued support."

"We are proud to have achieved a major milestone at Minoryx with the initiation of the ADVANCE trial. We look forward to continuing the development of MIN-102 in collaboration with the X-ALD community," said Dr. Marc Martinell, CEO of Minoryx.

More information:

https://clinicaltrials.gov/ct2/show/NCT03231878?term=advance&recrs=ab&cond=AMN&rank=1

**About X-ALD**
X-ALD is the most prevalent peroxisomal disease. It is caused by mutations in the ABCD1 gene. Its estimated incidence is 1:17,000 newborns worldwide. Although it primarily affects males, heterozygous women may also develop the disease in later life. X-ALD is characterized by the accumulation of very long chain fatty acids (VLCFA), leading to a neurodegenerative disorder where the most affected tissues are the spinal cord, the brain and the adrenal cortex. The CNS related effects lead to two main phenotypes: adrenomyeloneuropathy (AMN), characterized by progressive motor dysfunction, and cerebral ALD (cALD), characterized by severe neuroinflammation leading to early death. There is currently no pharmacological treatment available on the market. The only available alternative for cALD patients is hematopoietic stem cell transplantation (HSCT). This approach does not prevent the development of the AMN phenotype, for which there are no therapies available.

**About MIN-102**
MIN-102 is a novel, orally bioavailable and selective PPAR gamma agonist. It is a metabolite of pioglitazone. MIN-102 shows a superior brain penetration and safety profile, allowing PPAR gamma engagement above the level that can safely be achieved with pioglitazone and other glitazones. It showed robust preclinical proof of concept in several animal models. In X-ALD, mutations in ABCD1 trigger a cascade of events leading to mitochondrial dysfunction, oxidative stress, neuroinflammation, demyelination and axonal degeneration. Through its PPAR gamma activity, MIN-102 prevents such dysfunctions, thus it has the potential to treat both adrenomyeloneuropathy (AMN) and cerebral ALD (cALD). A phase 1 combined single- and multiple-ascending dose study was successfully completed in Q1 2017. This confirmed that MIN-102 is well tolerated, is able to cross the blood brain barrier and engage PPAR gamma within the CNS at the same level as the one achieved in preclinical studies. MIN-102 received Orphan Drug Designation for the treatment of X-ALD in both the EU and the US.

**About Minoryx Therapeutics**
Minoryx is a clinical stage biotech company leading the development of new therapies for X-ALD and other inborn errors of metabolism, a group of rare diseases of genetic origin with a high unmet medical need. The company's leading program is MIN-102, which has multiple CNS indications beyond X-ALD. The Minoryx team is made up of a group of drug discovery and development experts with several decades of experience in biotech and pharma. The

company is backed by a syndicate of experienced investors and has support from a network of other organizations. Minoryx was founded in 2011 and has raised a total of €24.4M.
www.minoryx.com

**Media Contacts & Analysts**
Andrew Lloyd & Associates
Agnes Stephens – Sandra Régnavaque
agnes@ala.com / sandra@ala.com
@ALA_Group
+ 44 1273 675 100