

## Inventiva Announces Initiation of Phase IIb Clinical Trial of IVA337 for Treatment of Non-Alcoholic Steatohepatitis (NASH)

- ▶ Therapeutic candidate IVA337 is a next generation PanPPAR agonist addressing all the relevant clinical and regulatory features of NASH
- ▶ NATIVE clinical study plans to enroll 225 patients in 12 European countries
- ▶ Headline results are expected mid-2018

**Daix, France, January 3, 2017** - Inventiva, an emerging biopharmaceutical company developing innovative therapies notably to treat fibrosis, today announces the beginning of patient enrollment for its Phase IIb clinical trial (NATIVE - NASH Trial to Validate IVA337 Efficacy) evaluating the Company's lead compound, IVA337, for the treatment of Non-Alcoholic Steatohepatitis (NASH).

"Unlike other drugs targeting NASH, IVA337, a next generation PanPPAR agonist, addresses all the relevant clinical and regulatory features of this condition: steatosis, inflammation, ballooning and fibrosis." said Pierre Broqua, co-founder and Chief Scientific Officer of Inventiva.

NASH is a severe and chronic form of non-alcoholic fatty liver disease that has become a leading cause to the need for liver transplantation. NASH affects over 30 million people in the United States<sup>1</sup>, increases 5 to 10 fold the risk of liver related mortality and is expected to become the leading cause of liver transplantation by 2020. There are no pharmaceutical treatments currently approved and treatment options are limited to lifestyle changes, weight loss and or medical procedures, such as bariatric surgery.

NATIVE is a randomized, double-blind, placebo-controlled, multi-center, Phase IIb clinical trial in NASH patients. The study will investigate the safety and efficacy of two doses of IVA337 (800 and 1200 mg/day) over a 24-week period and will enroll up to 225 patients in 12 European countries. The primary endpoint will be based on histologically assessed improvement of the activity component of the SAF<sup>2</sup> score combining inflammation and ballooning, without worsening of fibrosis.

"NASH is a highly prevalent condition with a significant unmet medical need," said Prof Sven Francque of the Antwerp University Hospital, and one of the trial's Principal Investigators. "The medical community is in search of a treatment that resolves NASH without worsening fibrosis. Based on the data generated in pre-clinical models, IVA337 has the potential to meet this objective. Therefore, we are excited to further evaluate IVA337 in this Phase IIb clinical trial."

"We are very pleased with the progress so far and the positive feed-back received from regulatory agencies as well as from the clinicians involved in the study: we look forward to the full enrollment of this study in the second half of 2017" said Dr Jean-Louis Abitbol, Inventiva's CMO.

<sup>1</sup> Angulo *et al.* Hepatology 1999; 30(6):1356-62.; Minervini *et al.* J Hepatology 2009; 50:501-510

<sup>2</sup> SAF is a scoring system to measure liver lesions that dissociates grade of steatosis, grade of activity, and stage of fibrosis thus enabling an easy comparison between biopsies and changes observed in paired biopsies during clinical trials.

IVA337 which has demonstrated anti-fibrotic properties in several tissues alongside good clinical tolerance is currently in a Phase IIb trial for the treatment of systemic sclerosis, another fibrotic disease with very high unmet medical needs. IVA337 has undergone a successful Phase IIa study in diabetic patients with improvements in markers of insulin resistance (HOMA-IR), and dyslipidemia (increase in circulating HDL cholesterol and decrease of circulating triglycerides). These clinical findings are extremely valuable as the physiopathology of NASH is intimately linked to obesity, IR and T2DM. Furthermore data generated in multiple relevant pre-clinical models demonstrated that IVA337 also positively impacts all hepatic lesions associated with NASH. In these pre-clinical studies, IVA337 significantly reduced steatosis, ballooning and inflammation, and reversed established liver fibrosis.

“This is a very important study in identifying a new treatment for NASH, a condition associated with increased mortality, with excess cardiovascular-, liver- and cancer-related deaths,” added Pierre Broqua. “Importantly, by measuring the efficacy of IVA337 on histological scores for ballooning and inflammation, the NATIVE study will evaluate the effects of IVA337 on the two components defining NASH resolution, a regulatory approved endpoint. The initiation of this study represents a critical milestone for our company as we continue to advance our diversified pipeline.”

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**About Inventiva:** [www.inventivapharma.com](http://www.inventivapharma.com)

Inventiva is a biopharmaceutical company specialized in the development of drugs interacting with nuclear receptors, transcription factors and epigenetic modulators. Inventiva’s research engine opens up novel breakthrough therapies against fibrotic diseases, cancers and orphan diseases with substantial unmet medical needs.

IVA337, currently in Phase IIb clinical testing for treatment of NASH and systemic sclerosis, is an anti-fibrotic treatment with a unique mechanism of action going through the activation of all three alpha, gamma and delta PPARs (peroxisome proliferator-activated receptors), which play key roles in controlling the fibrotic process. Its anti-fibrotic action targets two initial indications with substantial unmet medical need: NASH, a severe and increasingly prevalent liver disease already affecting over 30 million people in the United States, and systemic sclerosis, a disease with a very high mortality rate and for which there is no approved treatment to date.

Inventiva is also developing a second clinical program with IVA336, a drug candidate for the treatment of three different forms of mucopolysaccharidosis (MPS I or Hurler-Sheie syndrome, MPS II or Sly syndrome and MPS VI also known as Maroteaux-Lamy syndrome), as well as a portfolio of projects in oncology.

Inventiva has signed separate strategic drug discovery partnerships with AbbVie and Boehringer Ingelheim, under which Inventiva is eligible for preclinical, clinical, regulatory and commercial milestone payments and royalties on products resulting from these partnerships. Inventiva also is leveraging its drug discovery platform to advance multiple proprietary preclinical programs and benefits from partnerships with world-leading research entities, such as the Institut Curie.

Acquired from the international pharmaceutical group Abbott (now Abbvie), Inventiva’s highly qualified staff and state-of-the-art R&D facilities, include a proprietary library of over 240,000 molecules as well as integrated biology, chemistry, ADME and pharmacology platforms.