GERMAN CANCER RESEARCH CENTER IN THE HELMHOLTZ ASSOCIATION

Research for a Life without Cancer

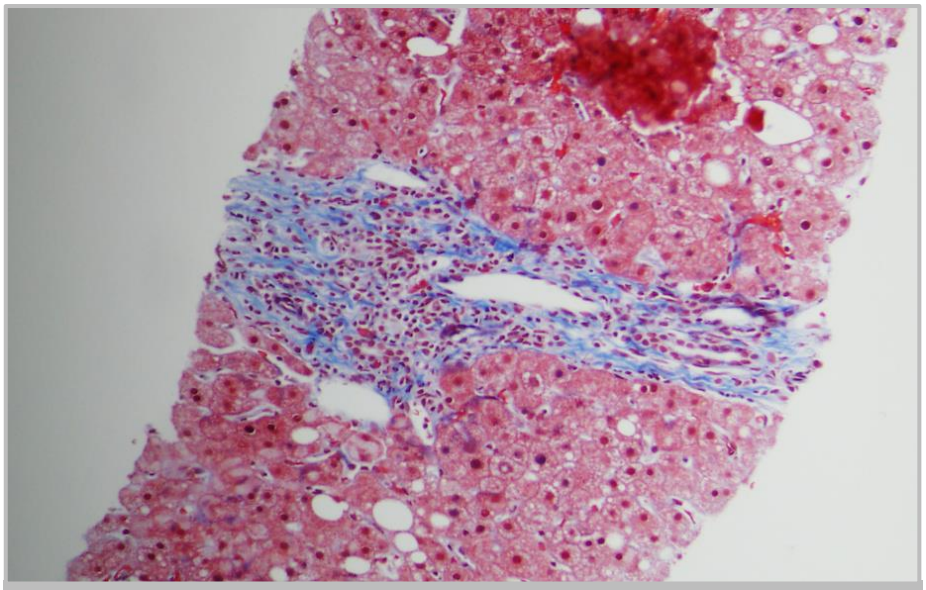
TECHNOLOGY OFFERS

Treatments of Non-Alcoholic Steatohepatitis (NASH) (P-1305)

Compounds that target thrombocyte activity or aggregation capacity, preventing development of cirrhosis from NASH

EXECUTIVE SUMMARY

Non-alcoholic fatty liver disease (NAFLD), comprising several liver diseases including NAFL and NASH, which is the most frequent liver disease world-wide, is a clinical manifestation of overweight and metabolic syndrome. Compounds were identified that target thrombocyte activity or aggregation capacity through cellular components for the treatment of diseases associated with NAFLD. These compounds are effective for treating non alcoholic steatohepatitis (NASH), an advanced stage of NAFL (non-alcoholic fatty liver), in order to avoid the development of liver cirrhosis and hepatocellular carcinoma (HCC). Also provided are methods for screening for new NASH therapeutics.



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Category	Indication	Development stage	Seeking
Therapeutics	NAFLD,NASH	Pre clinical, Hit identification	Licensing

BENEFITS

- novel antiplatelet therapy (APT) that specifically decouples the aggregation of platelets in the liver from the control of inflammatory response
- completely novel approach to therapy
- molecular target can be successfully addressed with antibodies in a preclinical model to treat NASH

TECHNOLOGY BACKGROUND

Changes in lifestyle over the last few decades such as high caloric intake (e.g. through high-fat, high-fructose and high-glucose diets) combined with a sedentary lifestyle have increased the incidence of overweight and metabolic syndrome, which is characterized by abdominal obesity, insulin resistance, hypertonia and dyslipidemia. The latest WHO cancer report predicts a doubling in cancer incidence within the next two decades, the great majority of which will be attributable to modifiable risk factors such as high caloric intake, smoking and a sedentary lifestyle. The liver, which is the most important metabolic organ in the body, is greatly affected by a chronic state of hypercaloric uptake, overweight, sedentary lifestyle and the resulting pathology (metabolic syndrome). Non-alcoholic fatty liver disease (NAFLD), comprising several liver diseases including NAFL and NASH, which is the most frequent liver disease world-wide, is a clinical manifestation of overweight and metabolic syndrome.

DEVELOPMENT STAGE

-Target validation completed, Hit identification ongoing------

APPLICATIONS

Treatment of non-alcoholic steatohepatitis (NASH), an advanced stage of NAFL (non-alcoholic fatty liver), in order to avoid the development of liver cirrhosis and hepatocellular carcinoma (HCC).

INTELLECTUAL PROPERTY

Patent application submitted

- WO2018002155A1. “Treatments of Non-Alcoholic Steatohepatitis (NASH)”, Application Date 28.06.2016.
- Nationalized as US20190262379A1, EP3475425A1 and JP2019524659A, all pending.

PUBLICATIONS & REFERENCES

- Malehmir M et al. Platelet GPIbα is a mediator and potential interventional target for NASH and subsequent liver cancer. Nat Med. 2019 Apr;25(4):641-655. doi: 10.1038/s41591-019-0379-5. Epub 2019 Apr 1.

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