Targeting fibrosis

Fibrosis-related diseases, such as nonalcoholic steatohepatitis and idiopathic pulmonary fibrosis, have generated a wave of deal and funding activity over recent years. Here, we highlight a selection of these deals.

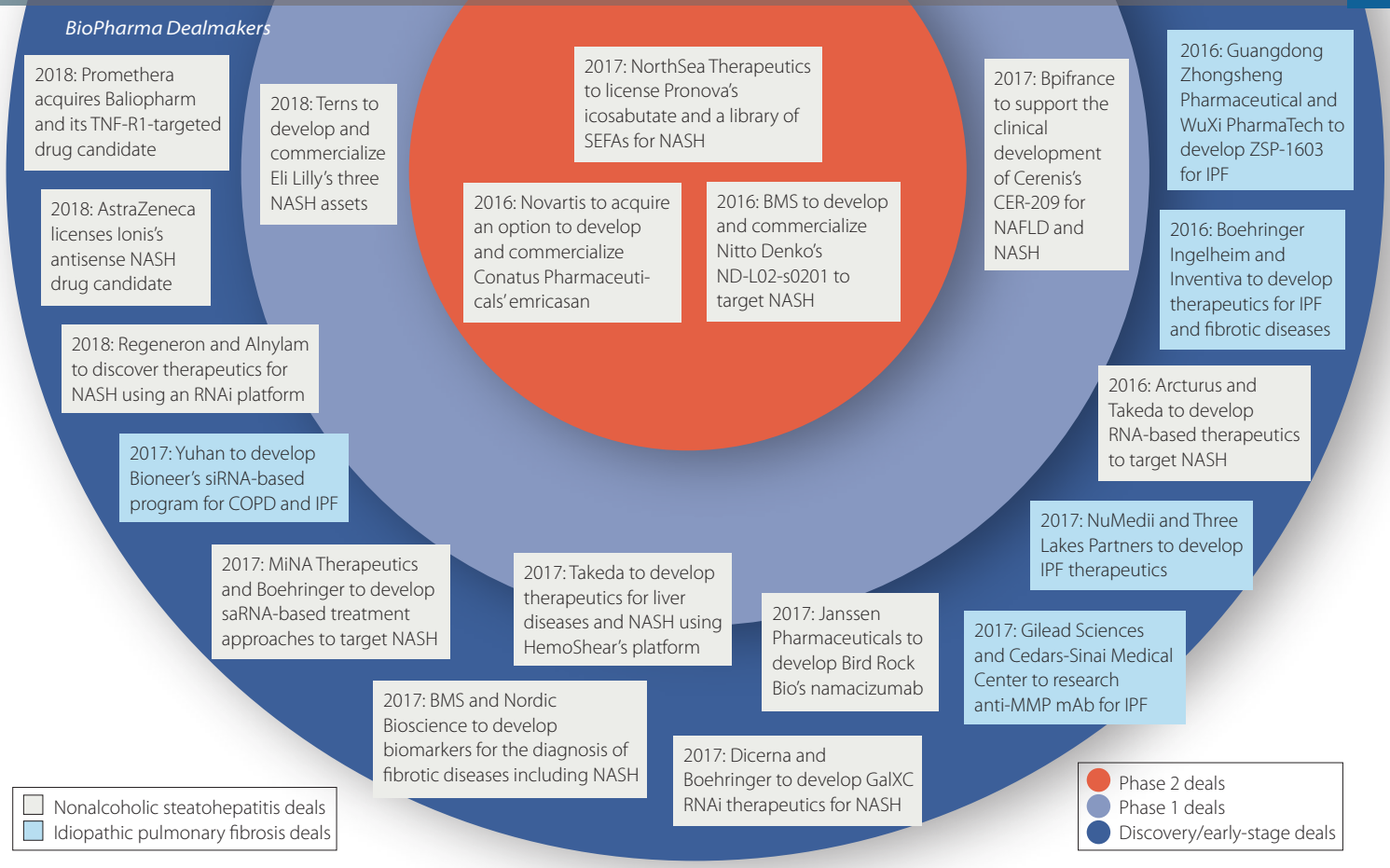

Fig. 1 | Selected fibrosis deals between 2016 and 2018. Deals are positioned based on the stage of development of candidate products at which the deal was signed. BMS, Bristol-Myers Squibb; COPD, chronic obstructive pulmonary disease; FXR, farnesoid X receptor; IPF, idiopathic pulmonary fibrosis; mAb, monoclonal antibody; MMP, matrix metalloproteinase; NAFLD, nonalcoholic fatty liver disease; NASH, nonalcoholic steatohepatitis; RNAi, RNA interference; saRNA, small activating RNA; siRNA, small interfering RNA; SEFA, structurally engineered fatty acid; TNFR1, tumor necrosis factor receptor 1. Source: Clarivate Analytics Cortellis database 2018.

Fibrosis—the excessive accumulation of extracellular matrix—leads to progressive organ dysfunction in some metabolic and/or inflammatory diseases, including nonalcoholic steatohepatitis (NASH) and idiopathic pulmonary fibrosis (IPF). NASH is a type of nonalcoholic fatty liver disease that is expected to become the most common reason for liver transplantation within the next decade. It currently has no approved drugs, but pioneering therapies could capture part of a forecasted $25 billion market in 2025 (*Nat. Rev. Drug Discov.* **15**, 745–746 (2016)). A few drugs have recently been approved for IPF, a progressive and lethal lung disorder, but these can only slow the progression of the disease (*Nat. Rev. Drug Discov.* **15**, 755–772 (2017)). Given the major unmet medical needs and the large markets associated with these two diseases, major pharma companies and biotechs are vying to develop new drugs for them, driving deals such as those shown in **Fig. 1**.