Histide AG

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Histide introduces Cell Recoding Molecules as a new therapeutic approach to addressing disease

Histide's Cell Recoding Molecules provide a diverse source of nonmutagenic extracellular therapeutic agents for tissue regeneration and disease healing.

Histide is a Swiss biotech and intellectual property (IP) platform company pioneering a new class of nonmutagenic extracellular therapeutic agents called Cell Recoding Molecules (CRMs). CRMs promote and stimulate cells' natural capacity to redirect their own fate by integrating extracellular signals.

CRMs are at the heart of Histide's groundbreaking approach to addressing diseases called Recoding Therapeutics, which goes beyond traditional cell-, gene- or RNA-based therapies. This innovative platform builds on Histide's expertise in the mechanisms underlying cells' microenvironmental sensing and signal transduction processes.

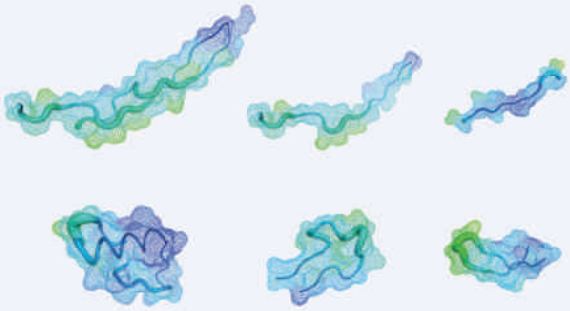

Figure 1: Representative 3D structures for each of Histide's six classes of CRMs.

Based in the Zurich metropolitan area, Histide was founded in 2014 around the innovative scientific concepts of pluridisciplinary scientists Omar F. Zouani (cofounder) and Veronika Gocheva, as well as principal investor Romain Julia (cofounder), an experienced healthcare entrepreneur. Subsequently, Florian Kemmerich, an industry expert with an exceptional track record in several life science disciplines, joined as partner and CEO.

Histide has since assembled an experienced management team together with visionary scientists, all committed to providing enhanced therapeutic solutions toward patient healing and quality of life.

The CRM edge

CRMs harness cells' capacity to sense and process environmental signals in order to precisely fine-tune and adapt their physiology to their surroundings. In contrast to previously developed gene therapies or RNA-based therapies, Histide's technology has the major advantage of not requiring the introduction of foreign molecules into the cell, which can result in irreversible harm.

CRMs are therapeutic agents characterized by a molecular weight of less than 15,000 Da. They activate at least one growth factor receptor and can be grafted or not to various microenvironmental mimics or medical devices for therapeutic purposes.

Histide has used CRMs to create an innovative platform of complex microenvironments with the capacity to dictate the precise commitment of various cell types. These include cells from different tissue origins and in contrasting stages of differentiation, ranging from stem cells to specialized mature cells.

Recoding Therapeutics treatments are the closest to natural cell physiology and thus provide substantially improved safety and efficacy. They have the potential to address a wide range of altered cell conditions and diseases through the regeneration and healing of a large majority of human tissues.

First applications of the CRM technology *in vitro* by Histide were shown to regenerate more than 12 types of tissues and heal several types of neoplastic diseases by recoding the tumor cells into healthy and physiologically functional cells.

Golden pipeline

Today, Histide has a library of more than 3,000 CRMs developed on the basis of about 25 cell lineage–specific so-called golden sequences that mediate specific noncovalent interactions with target cell receptors.

The library consists of six distinct classes of molecules, each characterized by a specific formulation, molecular weight, 3D structure and molecular dynamics, all of which were designed according to a carefully planned market access strategy (**Fig. 1**). The goal of this approach is to maximize market access by addressing US Food and Drug Administration approval, CE marking and other regulatory requirements in particular therapeutic areas in a very targeted way from the first stages of the drug development process. This strategy has guided Histide's R&D activities since the company was founded.

Histide has now developed a broad and disruptive IP portfolio surrounding these CRMs to ensure protection over the inventions and secure their full potential as drivers of Histide's overall Recoding Therapeutics platform.

A fully integrated portfolio strategy has been built to address each stage of the CRM discovery and development process: rational design, drug discovery and engineering, chemistry and formulations, microenvironmental design and manufacturing process, targets, therapeutic development, and applications.

Partnering CRMs

Histide's patent portfolio offers value to investors and is designed to stimulate partnerships to develop CRMs for a vast spectrum of indications, pharmaceuticals, medical devices and medical cosmetics.

In less than a year, and driven by its impressive discovery-stage data and its solid IP portfolio, Histide has developed strong collaborations with leading universities and institutes worldwide to promote and further develop and explore the full potential of CRMs.

Histide is currently finalizing preclinical and *in vivo* proof-of-concept studies of the long-term therapeutic effect of CRMs in regenerating damaged tissues and healing neoplastic diseases. According to Zouani, CSO at Histide, "CRMs have the potential to address a significant array of untreatable or undruggable diseases by harnessing the cell's own physiological mechanisms of microenvironmental sensing and fate guidance."

Histide is currently looking for partnership opportunities and has already initiated discussions with several big pharma companies regarding licensing deals for the development of first-in-class therapies in the clinical oncology space.

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