

We Aim To Cure

Cancer and most other diseases have complex mechanisms. Yet most, if not all, occur when the equilibrium of the human body is disturbed, either through the upregulation or downregulation of certain genes, proteins, hormones, and other natural molecules otherwise under control.

Biomea's scientists have identified a series of molecular targets whose role in healthy individuals is to function quietly and efficiently, keeping this equilibrium largely undisturbed. In cancer, these proteins malfunction, thus disrupting their complex biochemical pathways, resulting in abnormal cell growth and division. When the body's own defense mechanisms are unable to restore the healthy equilibrium, tumors and late-stage disease occur. In these tumors, the rogue proteins continue to be expressed above and beyond their normal levels. We recognized the value of precision, targeting the malfunctioning proteins through quick-acting inhibition.

Our scientists, with extensive backgrounds in structure-driven drug discovery and development, have taken aim at these molecular targets using irreversible, covalent inhibition techniques. Most commercial and clinical-stage drugs rely exclusively on keeping bloodstream levels at a sufficiently high value to which the patient is constantly exposed. The patient is thus subject to unwanted side effects caused by the drug's potentially indiscriminate activity against other targets that are not themselves out of equilibrium. In contrast, Biomea's approach specifically employs weak spots in the molecular target that can form a covalent or extremely tight bond with the drug, but in such a way that the inhibitor-protein complex is then taken out of action quickly. The only way then for the rogue protein to return is through de novo synthesis. This allows the drug to be dosed in short bursts, to do its job, and then disappear instead of having to be always present. While perhaps counterintuitive, this approach affords an added degree of selectivity, since "innocent" targets are not exposed to the drug for any longer than necessary.

With a wealth of experience in delivering versatile, multibillion dollar irreversible inhibitor drugs such as Imbruvica®, Biomea's team is uniquely positioned to leverage this knowledge in a whole new realm of unmet medical needs.

We aim to cure.

Sincerely,

Thomas Butler | CEO



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