

Glycoscience

Seikagaku Corporation specializes in glycoscience. The fundamental premise of this relatively new scientific field is that all life functions, from birth to death, involve information systems that are infinitely more complex than even the Internet. The molecular components responsible for signal transmission between cells are biopolymers and complex carbohydrates.

DNA research has opened up totally new areas of biological and medical knowledge. While living organisms use DNA to transmit information to their descendants, they use complex carbohydrates to carry the information needed for day-to-day life processes. To use a manufacturing metaphor, DNA is a blueprint of a factory, while complex carbohydrates represent conversations, telephone calls, faxes and other means to share information among the people who work in the factory. Just as a factory, no matter how advanced, could not function if its workers were unable to communicate with each other, so the processes of life would not be possible without the sharing of information between cells. When those information systems deteriorate, the factory becomes less efficient, and the living organism begins to suffer from disease and aging.

Rapid advances in science and medicine over the past two decades have shown that information systems based on complex carbohydrates control all life phenomena—including conception, birth, brain functions, immunity and aging—as well as cancer and other diseases. This knowledge has dramatically increased the importance of glycoscience, which seeks to provide a comprehensive understanding of the role of carbohydrates. The growing significance of glycoscience to medical science indicates a future of unlimited potential for Seikagaku Corporation.

