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Navelbine® and Taxotere®: Histories of Sciences

Weaving history with chemistry, *Navelbine® and Taxotere®: Histories of Sciences* (ISTE Editions, June 2017) tells the story of two anticancer drugs—both of natural origin—discovered by teams of researchers at the CNRS Institut de Chimie des Substances Naturelles (ICSN). Authored by historian Muriel Le Roux and chemist Françoise Guéritte, the book considers how public research and industry research work together in the French system.

The anticancer arsenal includes many treatments. One of the most effective is chemotherapy, for which Navelbine® and Taxotere® have both played major roles. *Navelbine® and Taxotere®: Histories of Sciences* blends history and chemistry as it recounts the discovery of the two drugs—while considering the associated political, scientific, and economic environment.

In the mid-1980s, a team of ICSN researchers led by Pierre Potier synthesized Taxotere®—hailed as more effective than Taxol®—using a natural precursor extracted from the English yew (*Taxus baccata*).[1] By bringing their find out of the lab and into the factory, Potier's team, together with colleagues at the former French chemical and pharmaceutical company Rhône-Poulenc and Université de Grenoble, removed the technological and industrial barriers that had stymied Taxol® production. A few years earlier, another ICSN team led by Potier had solved the puzzle behind the synthesis of vinblastine and vincristine, two natural compounds isolated from the rosy periwinkle (*Catharantus roseus*). Their novel method led to the discovery of Navelbine®, which was then developed by pharmaceutical company Pierre Fabre. These two breakthroughs gave a boost to the French economy. But even more importantly, they provided physicians with valuable new anticancer drugs to treat millions of patients.

The discovery of Navelbine® and Taxotere® is the result of work conducted by French scientists within a research community. After describing the strategy adopted by French policymakers to promote research in the chemistry of natural substances, Le Roux and Guéritte study the ever more decisive interaction between science and its applications. From this emerges a new vision of the relationship between public and industrial research activities, the CNRS offering scientists great freedom and a wide margin for creativity.

Le Roux is now focusing on the history of ICSN research collaborations with pharmaceutical companies, as told through the biography of Pierre Potier. This will be the topic of her next work.

1. Taxol® is an anticancer drug whose structure was published in 1979. The active ingredient was extracted from the dried bark of the Pacific yew (*Taxus brevifolia*), but yields were very low: 8 tons of bark were needed to produce 1,300 g of Taxol®).

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About the authors

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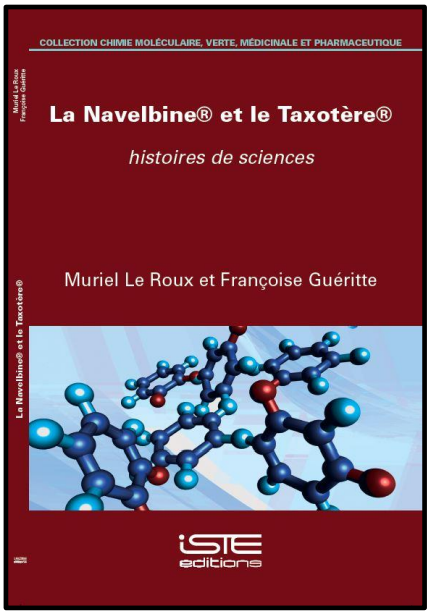

Navelbine® and Taxotere®: Histories of Sciences

ISTE Editions
Collection: Molecular, Green, Medicinal, and Pharmaceutical Chemistry

Muriel Le Roux and Françoise Guéritte

222 pages. Hardcover: €44;
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