Salarius Pharmaceuticals (SLRX) is Developing a Novel LSD1 Inhibitor, Positioning it as a Significant Mover in Epigenetics-Based Cancer Therapies

Rachael Green
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Salarius Pharmaceuticals Inc. is developing a novel epigenetics-based treatment that targets the lysine-specific histone demethylase 1 (LSD1) enzyme, which researchers believe plays a key role in the growth of difficult-to-treat cancer cells. Salarius lead drug candidate, seclidemstat, has received Fast Track Designation, Orphan Drug Designation and Rare Pediatric Disease Designation for Ewing sarcoma from the U.S. Food and Drug Administration.

As Salarius works toward getting its pioneering new treatment to market as fast as possible, here's what Seclidemstat could mean for sarcoma patients and what's on the horizon for the company.

Sarcoma Patients Struggle with Aggressive Cancers and Limited Treatment Options

Ewing sarcoma is a rare and very deadly cancer that begins in a patient's bones and primarily affects children and young adults.

While rare, there are about 500 new cases diagnosed in the United States each year. Of those, 40% will not respond to existing first-line treatments, which include chemotherapy, radiation, and surgery, to remove tumors from the bone. For those who don't see improvements with those first-line treatments or do but then relapse later on, as many as 90% will die within 5 years.

This high mortality rate paired with the fact that Ewing sarcoma primarily affects children and adolescents makes it an urgent priority for cancer researchers around the world.

Other sarcomas, while also rare, feature similar mortality rates and are often equally lacking in effective treatment options. With about 1,500 new cases of myxoid liposarcoma and FET-rearranged sarcomas in the U.S. each year, and a 5-year survival rate ranging from just 16% to 81% depending on how early the cancer was caught, Salarius hopes to get similar regulatory designations to facilitate seclidemstat's development for the treatment of other sarcomas as well.

As a treatment for Ewing sarcoma alone, Seclidemstat could generate an estimated $200 million in global sales annually, while hoping to significantly improve patient outcomes and quality of life. If approved for myxoid liposarcoma and FET-rearranged sarcoma as well, it could generate an additional $200 million per year.

Salarius Launches new Clinical Trials with Results Anticipated by 2022

Seclidemstat is currently being studied in 2 ongoing clinical trials as part of a treatment combination with chemotherapy agents. Salarius also expanded its clinical programs to study the LSD1 inhibitor's potential to treat other sarcomas based on encouraging results from preclinical studies and early clinical trial data.

Going forward, the company is enrolling patients in a slate of new clinical trials set to begin later this year. That includes a clinical trial to study Seclidemstat in combination with Keytruda, an antibody-based drug manufactured by Merck & Co. Inc. to treat gynecological cancers.

Updates from Salarius's in-progress trials are expected to be announced in the 2nd half of this year with more robust data readouts planned to occur mid-next year. Updates from the trials the company is currently enrolling or planning to initiate soon are expected to be announced by the 2nd half of 2022.