

## The molecule targeting shipping's biofouling problem

DELIVERY

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A recently developed bio-repelling antifouling ingredient known as medetomidine, already used as a sedative in drugs for humans and animals, is finding a new application in the marine coatings industry as a biological deterrent preventing barnacles from settling on ships' hulls and other surfaces. Swedish company I-Tech is responsible for the introduction of this bio-technology to the maritime sector, under the name Selektope – VPO Global spoke with CEO Philip Chaabane about the process of transforming a newly discovered molecule into an antifouling aid.



Philip Chaabane, I-Tech CEO

"Selektope was first developed by the University of Gothenburg and Chalmers University, a technical and engineering school in Gothenburg, through a research-oriented initiative that aimed to find alternative agents, ways or means to take care of the fouling issue. During the research process, the university scientists discovered a molecule, medetomidine, and identified through its chemical and biological aspects that it had a repelling effect," Mr Chaabane told us.

The organic, non-metal molecule works by stimulating the receptors of any barnacle larvae as they come in to contact with it on the surface of a ship, and has been introduced as an ingredient in multiple varieties of coatings, including those manufactured by Chugoku Marine Paints.

"The molecule triggers the barnacles' octopamine receptors, which in turn causes the barnacles to become hyperactive," said Mr Chaabane.

"By becoming hyperactive and having their swimming behaviour disrupted, they are not able to stick or settle on a surface. So, they swim away, or leave the surface automatically."

The effect is immediate, but only temporary, "so they regain their normal behaviour shortly after."

Mr Chaabane's background includes an MSC in Material Engineering and experience as director of engineering and business development at PowerCell Sweden, linking the academic and commercial aspects of bringing the Selektope product to market.



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