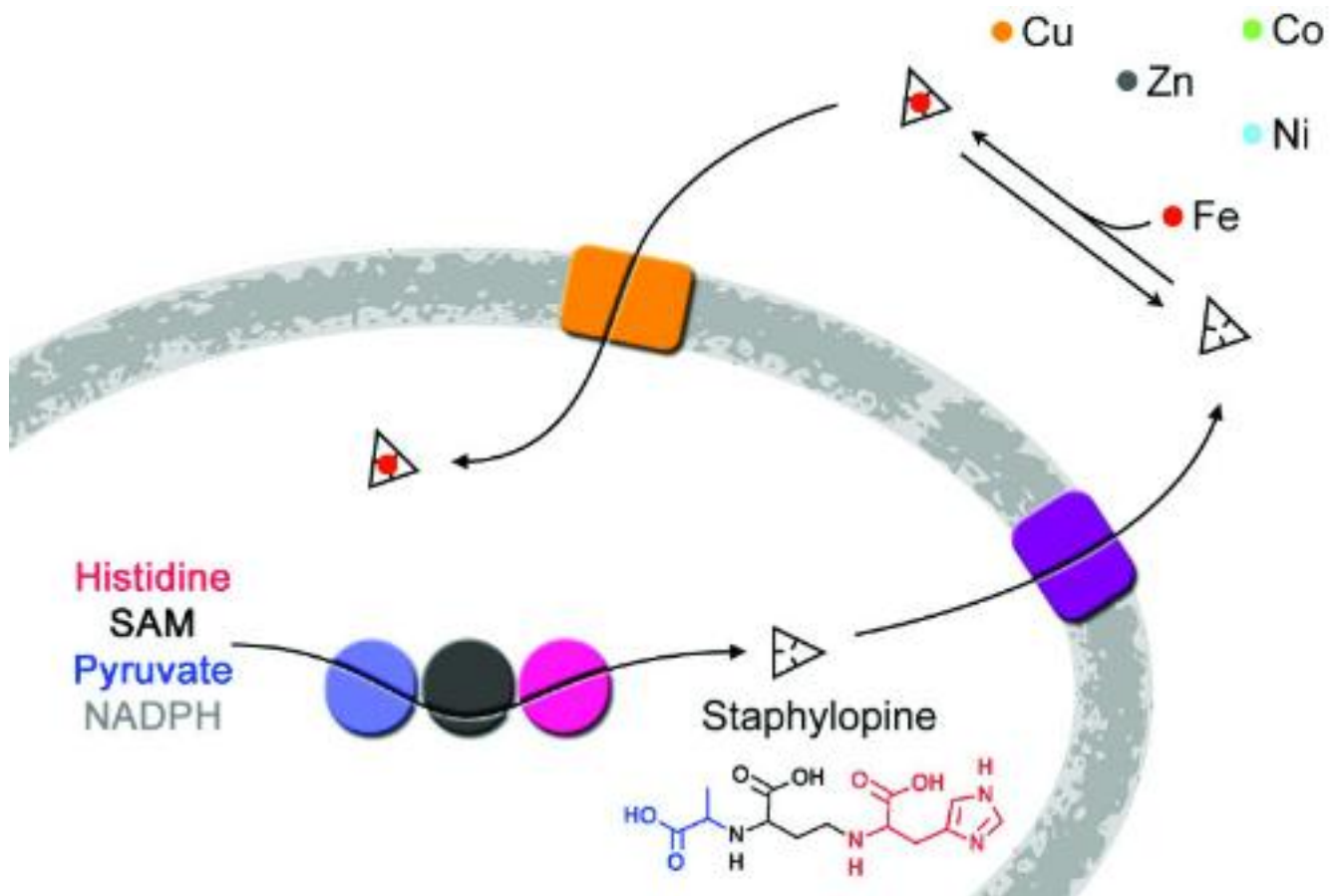


Discovery of a key molecule for staphylococcus aureus

IPREM researchers contributed to the identification of a new molecule, *staphylopine*, that could be a target for future treatments against infections by certain pathogenic bacteria.

Three IPREM researchers - Laurent Ouerdane, Shuanglong Wang and Ryszard Lobinski - played a determining role in the identification of an important molecule present in certain pathogenic bacteria like *staphylococcus aureus*. The molecule helps the organisms compensate for low concentrations of essential metals in their environment, especially inside a host. The researchers' work was published on May 27th 2016 in the journal *Science*.



Together with the CEA, the CNRS, the University of Aix-Marseille, INRA and Umea University in Sweden, they demonstrated the existence of a molecule produced by bacteria in order to trap metals, like iron and zinc, that are necessary for their survival. "At first, our work allowed us to understand the function of three enzymes that characterize the molecule, that we named *staphylopine*", explains Laurent Ouerdane, a researcher at the laboratory for analytic, bio-inorganic chemistry and environment, part of IPREM. "We then helped discover an exportation system that allows this molecule to go outside of the bacteria to bond with metals, and then to be recaptured by the bacteria by a special importation system." It is an important discovery that opens the door to new methods for fighting infections.

