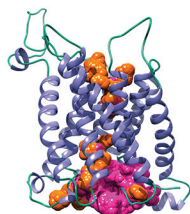


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COVER IMAGE



Cover photograph: HSO_3^- and SO_2 binding “hotspots” in the sulfite efflux pump from *Brettanomyces bruxellensis* strain AWRI1499, encoded by *SSU1* haplotype 2. The transmembrane protein is depicted in ribbon view with alpha-helices in purple and loops in green, and it is oriented with the cytoplasmic side at the bottom. Top-scoring docked orientations for HSO_3^- (bisulfite) and SO_2 (sulfur dioxide) are shown in pink and orange, respectively. Positively charged residues at the cytoplasmic surface of the protein result in favorable binding conditions for the bisulfite anion (the predominant microspecies), whereas sulfur dioxide more favorably binds the pore opening and pore channel. More positively charged residues on the cytoplasmic surface of Ssu1 confer increased resistance to sulfur dioxide treatment.

While the Ssu1 efflux pump likely binds free bisulfite, it may efflux it as sulfur dioxide. (See related article at e02429-18.) (Copyright © 2019 American Society for Microbiology. All Rights Reserved.)

SPOTLIGHT

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Resistance Gene Carriage Predicts Growth of Natural and Clinical *Escherichia coli* Isolates in the Absence of Antibiotics

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