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## Sortase A inhibitory activities of aaptamines from the tropical sponge *Aaptos aaptos*

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Sortase A (SrtA) is a key enzyme that anchoring to the cell walls of Gram-positive pathogens is focused as target of antibacterial agent. It has been demonstrated that SrtA involves in the pathogenic process of bacterial infection without affecting cell viability unlikely common antibiotics. Characteristic of Gram-positive pathogens such as *Staphylococcus aureus* and *Listeria monocytogenes* revealed reduction of biofilm formation and attenuation of virulence under srtA knockout mutants, as a results, SrtA become a broad interest agent as a new target of antibiotic development models. Inhibitory activity of four aaptamines derived from extracts of the marine sponge *Aaptos aaptos* was determined on the basis of the fluorescent intensity fluctuation of SrtA substrates. Among them, Isoaaptamine has a strong inhibitory activity against SrtA with IC<sub>50</sub> value of 3.7±0.2 µg/mL. Mutant *S. aureus* strains lacking a sortase cannot bind to cell matrix proteins, such as fibrinogen and fibronectin. The suppression of fibrinogen-binding activity by isoaaaptamine indicates its potential for the treatment of *S. aureus* infections via inhibition of sortase activity. Consequentially, isoaaaptamine is a promising candidate in the development of a bacterial SrtA inhibitor.

### Biography

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