

Antibacterial and structure-activity relationship of benzoic acid and its derivatives

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Food preservatives are specific additives used to prevent food spoilage. Benzoic acid is the simplest aromatic carboxylic acid, possessing a faintly pleasant odour and having wide application as preservatives in carbonated drinks, beverages, sauces, pickles, jams and jellies and also being used in cosmetics and other pharmaceutical products. The structure-activity relationship (SAR) provides a deep understanding between the chemical structure of a molecule and its biological activity. Modifying the molecule by substitution of a functional group is likely to affect its biological activity. The present communication reports an SAR study on benzoic acid and its derivatives, which are extensively used as preservatives in food and beverages, and compares their activity with their derivatives.

Keywords: Antibacterial activity, benzoic acid, benzoic acid analogues, halo zone test, SAR.