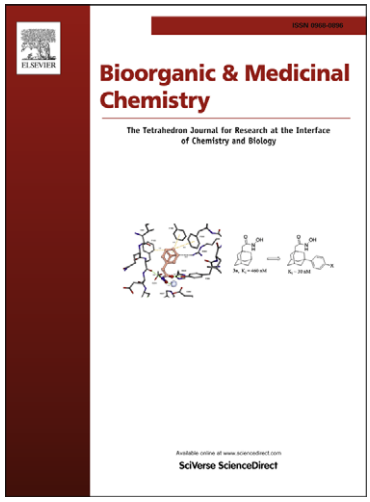

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The systematic structure-activity relationship to predict how flavones bind to human androgen receptor for their antagonistic activity

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ABSTRACT

Although flavones act as potent androgen receptor (AR) antagonists, it remains unclear how flavones interact with AR. The aim of this in silico study was to investigate the molecular recognition processes of newly synthesized 5,4'-difluoroflavone with the highest activity (IC_{50} value = 0.19 μM) in the AR-ligand binding domain (AR-LBD). The results demonstrated that at its 4'-position of 5,4'-difluoroflavone the substituents may face Arg752 and that in AR-LBD, the submolecular bulk of substituents is unfavorable for AR antagonists and the negative electrostatic interaction site prefers the