Uji penghambatan senyawa etil 4-{4-okso-2-[(E)-2-{4-sulfamoilfeniletenil}-3,4-dihidrokuinazolin-3-il]}benzoat terhadap aktivitas siklooksigenase-2 = Inhibition test of ethyl 4-{4-oxo-2-[(E)-2-{4- sulfamoylphenyletenyl}-3,4-dihydroquinazolin-3- yl]}benzoate compound for cyclooxygenase-2 activity

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Abstrak

ABSTRAK
Senyawa Etil 4-{4-okso-2-[(E)-2-{4-sulfamoilfeniletenil}-3,4-dihidrokuinazolin-3-il]}benzoat merupakan senyawa baru yang mempunyai kemiripan struktur dengan senyawa diarilheterosiklik, sedangkan sebagian besar inhibitor selektif siklooksigenase-2 merupakan senyawa diarilheterosiklik, sehingga senyawa tersebut diprediksi mempunyai aktivitas menghambat konversi asam arakhidonat menjadi prostaglandin melalui jalur siklooksigenase. Penelitian ini bertujuan untuk menguji efek penghambatan siklooksigenase-2 (COX-2) oleh senyawa etil 4-{4-okso-2-[(E)-2-{4-sulfamoilfeniletenil}-3,4-dihidrokuinazolin-3-il]}benzoat. Uji aktivitas penghambatan COX-2 dilakukan dengan menggunakan kit COX (ovine) inhibitor screening assay. Prostaglandin yang terbentuk ditentukan menggunakan metoda Enzyme Immunoassay dan intensitas warna yang dihasilkan diukur serapannya menggunakan plate reader pada panjang gelombang 415 nm. Dari hasil uji didapatkan nilai IC50 senyawa etil 4-{4-okso-2-[(E)-2-{4-sulfamoilfeniletenil}-3,4-dihidrokuinazolin-3-il]}benzoat adalah 16,91 M. Sebagai pembanding, pengujian juga dilakukan terhadap asetosal dan selekoksib. Hasil yang diperoleh untuk nilai IC50 asetosal dan selekoksib berturut-turut yaitu 24,97 M dan 0,43 M. Hasil penelitian menunjukkan bahwa senyawa etil 4-{4-okso-2-[(E)-2-{4-sulfamoilfeniletenil}-3,4-dihidrokuinazolin-3-il]}benzoat mempunyai potensi inhibisi lebih kuat dibandingan asetosal tetapi masih lebih rendah dibandingkan selekoksib.
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ABSTRACT
<i>Ethyl 4-{4-oxo-2-[(E)-2-{4-sulfamoylphenyletenyl}-3,4-dihydroquinazolin-3-yl]}benzoate compound is a new drug that has structural similarities with diaryl heterocyclic compound, while some of cyclooxygenase-2 selective inhibitor is a diaryl heterocyclic compound, so that the compound is predicted to have activity inhibits the conversion of arachidonic acid into prostaglandins through the cyclooxygenase. The aim of this study is to the test inhibitory effect of cyclooxygenase-2 (COX-2) by the ethyl 4-{4-oxo-2-[(E)-2-{4-sulfamoylphenyletenyl}-3,4-dihydroquinazolin-3-yl]}benzoate compound. Study of COX-2 inhibitory activity carried out by using a kit COX (ovine) inhibitor

screening assay. Prostaglandins which were formed was determined using the method of Enzyme Immunoassay and the resulting color intensity was measured using a plate reader absorbance at a wavelength of 415 nm. From the test results obtained IC50 value of ethyl 4-{4-oxo-2-[(E)-2-{4-sulfamoylphenyletenyl}-3,4-dihydroquinazolin-3-yl]}benzoate compound was 16.91 M. For comparison, the tests were also done on acetosal and celecoxib. The results obtained for acetosal and celecoxib IC50 values were 24.97 M and 0.43 M, respectively. The results showed that the ethyl 4-{4-oxo-2-[(E)-2-{4-sulfamoylphenyletenyl}-3,4-dihydroquinazolin-3-yl]}benzoate compound has stronger inhibitory potency compared to acetosal but still lower than celecoxib.</i>