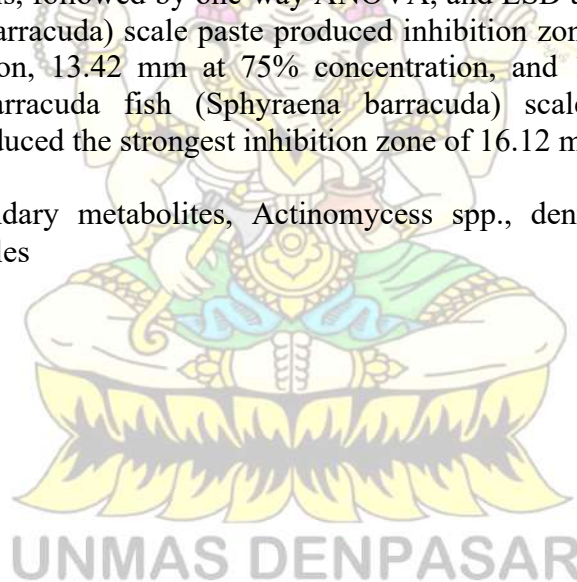


## ABSTRACT

Dental caries is a dental and oral health problem that is still common in Indonesia and can occur in both adults and children. The process of caries begins with the formation of dental plaque by *Actinomyces* spp. Caries prevention efforts can be done through plaque control by utilizing natural ingredients that have antibacterial activity. Barracuda fish scales (*Sphyraena barracuda*) are known to contain secondary metabolites such as saponins, phenols, steroids, terpenoids, alkaloids, flavonoids, and tannins that have antibacterial potential. This study aims to determine the inhibitory power of barracuda fish scale paste against the growth of *Actinomyces* spp. The study design is an experimental laboratory post-test only control group in vitro. Barracuda fish scale paste was made in three concentrations, namely 50%, 75%, and 100%, with 0.2% chlorhexidine as a positive control and 96% ethanol as a negative control. The inhibitory power test was carried out using the disc diffusion method on Mueller Hinton Agar media. Data were analyzed using descriptive analysis, followed by one-way ANOVA, and LSD analysis. Barracuda fish (*Sphyraena barracuda*) scale paste produced inhibition zones of 16.12 mm at 100% concentration, 13.42 mm at 75% concentration, and 11.63 mm at 50% concentration. Barracuda fish (*Sphyraena barracuda*) scale paste at 100% concentration produced the strongest inhibition zone of 16.12 mm.

**Keywords:** secondary metabolites, *Actinomyces* spp., dental plaque, caries, barracuda fish scales



## ABSTRAK

Karies gigi merupakan masalah kesehatan gigi dan mulut yang masih banyak ditemukan di Indonesia dan dapat terjadi pada orang dewasa maupun anak-anak. Proses terjadinya karies diawali dengan pembentukan plak gigi oleh *Actinomyces spp.* Upaya pencegahan karies dapat dilakukan melalui pengendalian plak dengan memanfaatkan bahan alami yang memiliki aktivitas antibakteri. Sisik ikan barakuda (*Sphyraena barracuda*) diketahui mengandung metabolit sekunder seperti saponin, fenol, steroid, terpenoid, alkaloid, flavonoid, dan tanin yang berpotensi sebagai antibakteri. Penelitian ini bertujuan untuk mengetahui daya hambat pasta sisik ikan barakuda terhadap pertumbuhan bakteri *Actinomyces spp.* Rancangan penelitian ini yaitu eksperimental laboratoris *post-test only control group* secara *in vitro*. Pasta sisik ikan barakuda dibuat dalam tiga konsentrasi, yaitu 50%, 75%, dan 100%, serta *chlorexidine* 0,2% sebagai kontrol positif dan *etanol* 96% sebagai kontrol negatif. Uji daya hambat dilakukan menggunakan metode difusi cakram pada media *Mueller Hinton Agar*. Data dianalisis dengan uji deskriptif, dilanjutkan dengan uji *One-Way ANOVA*, dan uji lanjut LSD. Pasta sisik ikan Barakuda (*Sphyraena barracuda*) menghasilkan zona hambat yaitu pada konsentrasi 100% sebesar 16,12 mm, konsentrasi 75% sebesar 13,42 mm, dan konsentrasi 50% sebesar 11,63 mm. Pasta sisik ikan barakuda (*Sphyraena barracuda*) konsentrasi 100% menghasilkan zona hambat terkuat sebesar 16,12 mm.

**Kata kunci:** metabolit sekunder, *Actinomycess spp.*, plak gigi, karies, sisik ikan Barakuda

