

**FORMULASI SEDIAAN HAND SANITIZER SPRAY BERBASIS  
LENDIR DAN KITOSAN CANGKANG  
BEKICOT (*Achatina fulica*)**

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**ABSTRAK**

Pandemi Covid 19 menyebar ke berbagai negara. Covid ditularkan melalui droplet, kontak langsung dengan orang yang sakit, atau menyentuh barang yang terkontaminasi Covid. Telapak tangan sering melakukan kontak fisik. Produk alternatif menjaga kebersihan tangan adalah *hand sanitizer*. Penggunaan *hand sanitizer* berlebihan menyebabkan iritasi bahkan rasa bakar pada kulit. *Spray gel* memiliki kelebihan dibanding sediaan lain. Bekicot dikategorikan sebagai hama. Bekicot mengandung analgesik, anti septik, dan peptida antimikroba. Cangkang bekicot mengandung zat kitin 70%-80%. Kitosan memiliki kemampuan antibakteri dan antijamur. Penelitian ini bertujuan untuk menganalisa dan menentukan perbandingan paling berpengaruh pada lendir dan kitosan cangkang bekicot terhadap *S.aureus* dan *E.coli*, serta menciptakan inovasi pengaplikasian lendir dan kitosan cangkang bekicot dalam menghasilkan *spray gel* antibakteri. Penelitian ini menggunakan metode pembuatan kitosan cangkang bekicot, uji aktivitas antibakteri, formulasi *spray gel*, pembuatan *spray gel*, dan uji fisik sediaan *spray gel*. Uji FTIR pada kitosan cangkang bekicot menghasilkan 7 puncak utama dengan panjang gelombang 873-3445. Kitosan Cangkang Bekicot memiliki warna putih dengan kadar air 3.90% dan abu 1.82%. Uji antibakteri menunjukkan konsentrasi terbaik lendir dan cangkang bekicot terhadap bakteri *S. aureus* dan *E. coli* dengan zona hambat 1000 ppm. Untuk konsentrasi perbandingan terbaik dengan zona hambat 500 ppm:1000 ppm. Uji pH pada *spray gel* mengacu pada (SNI) 2588:2017 dengan ketiga formulasi sesuai standar, uji viskositas terbaik yaitu 23.2133, dan hasil uji hedonik menghasilkan formulasi 2 yang paling disukai. Uji Efektivitas *spray gel* terhadap bakteri dengan presentase mencapai >99.99% terhadap *E. coli*, dan >99.99% terhadap *S. aureus*.

kata kunci: *Achatina fulica*, antibakteri, kitosan, lendir, *spray gel*.

**FORMULATION OF SPRAY GEL HAND SANITIZER BASED  
ON MUCUS AND CHITOSAN FROM  
SNAIL SHELL (*Achatina fulica*)**

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**ABSTRACT**

Covid 19 pandemic has spread to many countries. Covid is transmitted through droplets, direct contact with sick people, or touching items contaminated with Covid. The palms of the hands make frequent physical contact. An alternative product for maintaining hand hygiene is a hand sanitizer. Excessive use of hand sanitizer causes irritation and even a burning feeling on the skin. Spray gel has advantages over other product. Snails are categorized as pests. Snails contain analgesics, anti-septic, and antimicrobial peptides. Snail shells contain 70% -80% chitin. Chitosan has antibacterial and antifungal properties. This study aims to analyze and determine the most influential ratio of mucus and snail shell chitosan against *S.aureus* and *E. coli*, and to create an innovative application of snail shell chitosan and mucus in producing antibacterial spray gel. This research used the method of making snail shell chitosan, antibacterial activity test, spray gel formulation, spray gel manufacture, and spray gel preparation. FTIR test on snail shell chitosan produced 7 main peaks with a wavelength of 873-3445. Snail Shell Chitosan has a white color with a moisture content of 3.90% and 1.82% ash. Antibacterial test showed the best concentration of mucus and snail shells against *S. aureus* and *E. coli* bacteria with an inhibition zone of 1000 ppm. For the best ratio concentration with the inhibition zone 500 ppm: 1000 ppm. The pH test on the spray gel refers to (SNI) 2588: 2017 with the three formulations according to the standard, the best viscosity test is 23.2133, and the hedonic test results produce the most preferred formulation 2. Effectiveness test of spray gel against bacteria with a percentage reaching > 99.99% against *E. coli*, and > 99.99% against *S. aureus*.

Key words: *Achatina fulica*, antibacterial, chitosan, mucus, spray gel.