

## PRESS RELEASE

To the press

2020.Aug.31  
NejiLaw Inc.

### Invention of a new chewing gum type technology

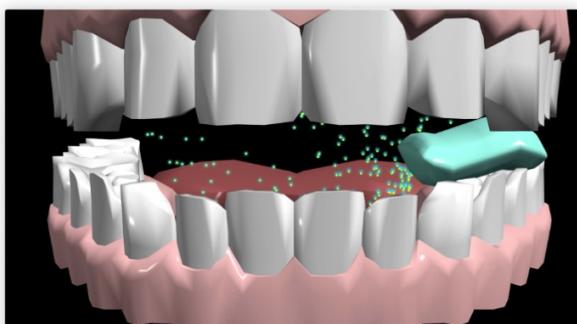
#### "Dr.GuM" for oral sterilization care.

Hiroshi Michiwaki, the representative and inventor of NejiLaw Inc. (Headquarters : Bunkyo-ku, Tokyo) has invented a new technology that addresses the risk of oral infection caused by invisible threats that spread throughout the world.

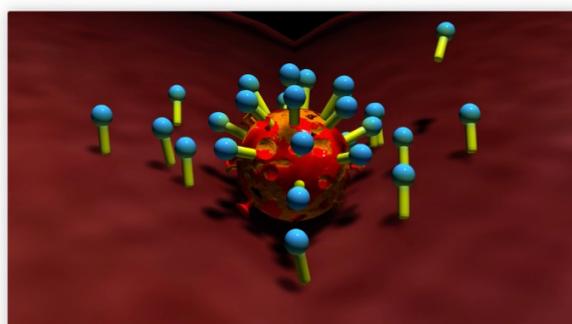
Next Innovation inc.

*Oral Virus Buster*

# Dr. GuM



When chewing Dr.GuM in the oral cavity, the microcapsules in "Air in Gum" are crushed and food-derived surfactants are released from the inside.



By utilizing the hydrophobic surface property of the virus, the lipophilic groups of food-derived surfactants are combined. This combination generates micelles to encapsulate each virus at the nanoscale level and enables to dissociate/remove the virus from the mucous membrane.

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We have come up with a structure that effectively reproduces the bactericidal action mechanism in the oral cavity by a food-derived surfactant.

With the newly devised "Emulsifier microcapsule technology", we are aiming at verification and realization of its reappearance, reproducibility, etc., and commercialization of 『Dr.GuM/Doctor Gum』. Despite being forced to live in such society fighting the virus, there are some disadvantages regarding conventional oral care

- ①Masks cannot prevent the virus from entering the oral cavity!
- ②Gargling cannot completely remove the virus attached to the mucous membrane!
- ③Especially while on the go, it is difficult to do such oral care as gargling!
- ④Brushing teeth cannot prevent oral infection!

## Disadvantages regarding conventional oral care



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Therefore, we came up with "Dr. GuM / Doctor Gum".

One of the typical conventional methods of dissociating, removing and sterilizing viruses adhering to the mucous membranes in the oral cavity and near the respiratory tract, is to gargle with some kind of mouth wash. It goes without saying that this type of conventional method requires the mouth wash, and also a place to mouth wash. With this type of conventional method it has been difficult to perform oral cavity care at anytime and anywhere.

On the other hand, there are some chewing gum (although chewing gum does not sterilize the oral cavity, it can be chewed anytime anywhere) that and has a similar effect to brushing teeth.

Therefore, we have independently devised a chewing gum type "Dr. GuM / Doctor Gum" using "Emulsifier microcapsule technology" to realize oral care that can easily prevent viruses by chewing.

- Microcapsules containing surfactants are embedded inside "Air in Gum"
- Surfactants are food-derived
- "Air in Gum" is a continuous bubble type



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"Dr. GuM / Doctor Gum" aims to enable anyone to easily take antivirus care in the oral cavity anytime and anywhere without having to think about time and place.

Dr.GuM has a structure in which microcapsules containing a surfactant, which is a food-derived emulsifier, are encapsulated inside "Air in Gum". By chewing Dr. GuM in the oral cavity, the emulsifier microcapsules inside are crushed. As a result, the surfactant is released into the oral cavity and fills the oral cavity up while being stirred with saliva and water. At that time, the hydrophilic groups that make up the surfactant spontaneously approach the virus adhering to the mucous membrane in the oral cavity and wrap up the virus while self-organizing, connecting each other and generating the micelles. The virus is inactivated, separated from the mucous membrane and removed. This is Dr. GuM's main mechanism of inactivating and removing the virus attached to the mucous membrane in the oral cavity.

Unfortunately, this project contains an unverified mechanism of action. It is necessary to overcome a high hurdle to verify and realize it. However, we believe that by jumping over this hurdle there is a considerable potential and great value.

Therefore, we are looking for partners who can work together with us to verify the mechanism of action.

We sincerely hope that we can work together to overcome this high hurdle, realize its commercialization and deliver Dr.GuM to people who need it.

Company in charge of development: Next Innovation LLC

Company representative and CEO: Hiroshi Michiwaki

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Cooperative Company: NejiLaw Inc.

NejiLaw has an consistent/comprehensive in-house system from inventive and speedy problem solving system to research • development • construction of mass production technology • quality control, in addition to high-grade joining members such as L/R Neji, ZaLoc, JicLoc, and ShuLoc. We will continue to make a broad-ranging contribution to the society through "Power of Emergence".

The representative/CEO: Hiroshi Michiwaki

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Established: July 2009

Business activities: Development, manufacturing, sales, and licensing of  
high-functionality/high-performance industrial fastening members.

Capital: JPY 499,000,000

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