

# Antibacterial Action of Aloe

Kobe High School *Sougourigaku* Course

Akari Inoue Hiroyuki Imoto Khai Hai Luc Nao Ueda Reina Shu

## Introduction

- Aloes are familiar plants.
- Aloes still have unknown effects.
- And aloes may have antibacterial properties. So we decided to study whether they have antibacterial properties, or not, and which parts have antibacterial properties.



## Aims

- We researched which ingredient of aloe has antibacterial properties, and whether its antibacterial properties can resist heat, or not.
- We researched three kinds of bacteria; *M. luteus*, *B. subtilis*, *B. mycooides*.

## Methods

We used *Aloe vera* in our experiments.

1. We cultured *M. luteus*, *B. subtilis*, *B. mycooides*. All of them are eubacteria, and, *B. subtilis* and *B. mycooides* are hay bacillus.
2. Next, we put aloe's epidermis, pulp, juice and stock on petri dish. And we observed them for whether inhibition rings appear, or not.
3. If inhibition rings are observed, it can be said that the part which we researched has antibacterial properties.

## Paper discs immersed in juice of aloe



## Results & Discussions

	Result		
	<i>M. luteus</i>	<i>B. subtilis</i>	<i>B. mycooides</i>
Epidermis	—	—	—
Pulp	—	+	+
Juice	—	+	+
Stock	—	—	—

1. + says that inhibition rings appeared, — says not.
2. We observed inhibition rings on petri dishes where we put pulp and juice.
3. Aloes showed antibacterial action against *B. subtilis* and *B. mycooides*, which are hay bacillus.

left : antibacterial action of juice against *B. subtilis*

right : antibacterial action of juice against *B. mycooides*



## Consideration

According to result 2, we think that aloe's pulp and juice have antibacterial properties.

And, we could not observe inhibition rings when we use stock, so we must use raw aloe to kill bacteria, or antibacterial properties of aloe cannot resist heat. According to result 3, aloe has antibacterial action against hay bacillus.

