

6종 천연오일의 항균활성 탐색

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Screening for antimicrobial activity for six species of natural essential oil

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**Objectives**

This research was carried out to investigate antimicrobial activities in the six species of natural essential oil.

**Materials and Methods**

○ Materials

Sample : Agastache rugosa(flower), Agastache rugosa(area part), Chrysanthemum zawadskii, Saururus chinensis, Citrus Limonum, Mentha arvensis

Microorganism : Three strains Malassezia furfur, Propionibacterium anes, Staphylococcus epidermidis were used.

○ Methods

Antimicrobial activity : Paper disc diffusion method

**Results**

Antimicrobial activities were determined by paper disc method of six species of natural essential oil. Antimicrobial activities were strong against microorganism such as Malassezia furfur, Propionibacterium anes, Staphylococcus epidermidis the activity against Propionibacterium anes, Staphylococcus epidermidis. was the strongest of all the microorganism. Of the six species of natural essential oil tested, Citrus Limonum showed the highest level of antimicrobial activity. Effect was increased with increase in concentration of oil.

Table 1. List of microorganism and media used for antimicrobial experiment.

Strains	Temp	Media
<i>Propionibacterium anes</i>	37°C	TSB
<i>Staphylococcus epidermidis</i>	37°C	TSB
<i>Malassezia furfur</i>	37°C	YM

Table 2. Antimicrobial activity of essential oil extracts 20,30,40mg on *Malassezia*

Strain	Antimicrobial activity(mm)		
	20mg	30mg	40mg
<i>Agastache rugosa</i> (flower)	-	-	++
<i>Agastache rugosa</i> (area part)	-	-	++
<i>Chrysanthemum zawadskii</i>	-	-	-
<i>Saururus chinensis</i>	-	-	-
<i>Citrus Limonum</i>	+	+++	+++
<i>Mentha arvensis</i>	-	-	-

*furfur*

-:none, +:20~40mm, ++41~60mm, +++:61mm up

Table 3. Antimicrobial activity of essential oil extracts 20,30,40mg on *Propionibacterium anes*

Strain	Antimicrobial activity(mm)		
	20mg	30mg	40mg
<i>Agastache rugosa</i> (flower)	-	+	+
<i>Agastache rugosa</i> (area part)	-	+	+
<i>Chrysanthemum zawadskii</i>	+	+	++
<i>Saururus chinensis</i>	+	+	+
<i>Citrus Limonum</i>	+	+++	+++
<i>Mentha arvensis</i>	-	-	+

-:none, +:20~40mm, ++41~60mm, +++:61mm up

Table 4. Antimicrobial activity of essential oil extracts 20,30,40mg on *Staphylococcus epidermidis*

Strain	Antimicrobial activity(mm)		
	20mg	30mg	40mg
<i>Agastache rugosa</i> (flower)	-	+++	++
<i>Agastache rugosa</i> (area part)	-	+	+
<i>Chrysanthemum zawadskii</i>	-	+	+
<i>Saururus chinensis</i>	-	-	-
<i>Citrus Limonum</i>	+	+++	+++
<i>Mentha arvensis</i>	-	-	-

-:none, +:20~40mm, ++41~60mm, +++:61mm up