A Direct Comparison of the Antibacterial Properties of Manuka Oil & Tea Tree Oil

Background

Minimum Inhibitory Concentration (MIC) is defined as the lowest concentration of an antimicrobial that inhibits visible growth of a microorganism after overnight incubation. MICs are considered the "gold standard" for determining the susceptibility of organisms to antimicrobials.

TABLE 1 summarises independent MIC data for manuka oil (*Leptospermum scoparium*) and tea tree oil (*Melaleuca alternifolia*). This data clearly shows that manuka oil has much stronger and more broad spectrum antimicrobial properties than tea tree oil.

TABLE 1:
MIC Data on Manuka Oil & Tea Tree Oil (%v/v)

	Pathogen	**Manuka Oil**	**Tea Tree Oil**
Gram Negative Bacteria			
1	*P. vulgaris*	*0.50*	*0.30*
2	*P. aeruginosa*	*0.85*	*1.0*
3	*E. coli*	*>2*	*0.25*
Gram Positive Bacteria			
4	*S. aureus*	*0.10*	*0.25*
5	*MRSA*	*0.05*	*0.35*
6	*S. Capitis*	*0.05*	*0.35*
7	*S. epidermidis*	*0.05*	*0.45*
8	*E. faecium*	*0.05*	*0.25*
9	*B. Subtilis*	*0.15*	*0.30*
10	*C. diphtheriae*	*0.05*	*0.20*
11	*C. minutissimus*	*0.05*	*0.20*
Fungi & Yeasts			
12	*C. albicans*	*>2*	*0.30*
13	*E. floccosum*	*0.4*	*0.70*
14	*T. rubrum*	*0.3*	*0.60*

Source:
Christoph, F. et al., (2000), *A comparative study of the in vitro antimicrobial activity of tea tree oils with special reference to the activity of β-triketones*, Plantamed (66), 556-560
<< https://www.ncbi.nlm.nih.gov/pubmed/10985085 >>