

# An Antimicrobial Fabric Using Nano-Herbal Encapsulation of Essential Oils

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## Materials

Name	Company	Catalog Number	Comments
Acetic acid	Millipore Sigma	64-19-7	
Antibiotic base agar	BD Difco	DF0270-17-4	Also known as Antibiotic Medium 2
Antibiotic seed agar	BD Difco	DF0263-17-3	Also known as Antibiotic Medium 1
Blood Agar (Nutrient Agar with 5% Sheep Blood)	Donated by CFIA		
Bromcresol Purple Lactose Agar	Donated by CFIA		
<i>Candida albicans</i>	ATCC The Global Bioresource Center	ATTC 10231	
Carvacrol	Millipore Sigma	282197 (CAS# 499-75-2)	
Centrifuge Allerga X-22R Centrifuge	Beckman Coulter	Model # X-22R	Refrigerated. Wait at least 20 min or until the temperature reach the set low value (e.g., 4 °C) as the refrigeration takes time.
Chitosan Medium Molecular Weight (CS)	Millipore Sigma	448877 (CAS # 9012-76-4)	
Clamshell Heat Press	Intiva	IM1200	
<i>Escherichia coli</i> ( <i>E. coli</i> )	ATCC The Global Bioresource Center	ATTC 23725	
Incubator	Thermo Scientific	1205M34	
Lethen Broth	BD Difco	DF0681-17-7	Used to neutralize antimicrobial effects. Product from different manufacturers may require to add Polysorbate 80, which is already added in Difco product.
Milli Q water	Millipore Sigma	ZR0Q16WW	Deionized water
Mueller-Hinton Agar	BD Difco	DF0252-17-6	
Pentasodium tripolyphosphate (TPP)	Millipore Sigma	238503 (CAS# 7758-29-4)	
Phospahte Buffered Saline (PBS)	Thermo Scientific	AM9624	
<i>Pseudomonas aeruginosa</i>	ATCC The Global Bioresource Center	ATTC 9027	
Sabouraud Dextrose Agar	BD Difco	DF0109-17-1	
Shaking incubator/ Thermo shaker	VWR	Model# SHKA2000	

<i>Staphylococcus aureus</i>	ATCC The Global Bioresource Center	ATCC 6538	
Thymol	Millipore Sigma	T0501 (CAS# 89-83-8)	
Trypticase Soy Agar	BD Difco	236950	
Trypticase Soy Broth	BD Difco	215235	
Tween 80	Millipore Sigma	STS0204 (CAS # 9005-65-6)	
UV-Vis Spectrophometer	Thermo Scientific	GENESYS 30 (840-277000)	