

Multi-Microbial Time Challenge Studies

Anti-microbial Activities of Di-Dak-Sol™

Double Blind Randomized Testing: Two independent third party laboratories performed the Mutli-Microbial Time Challenge Studies, according to CPI protocol.

For purposes of the tests, two different lots of Di-Dak-Sol™ (Sodium Hypochlorite 0.0125%) were randomly selected. To fully challenge the anti-microbial activities of Di-Dak-Sol™, one of the lots was close to its expiration date when the multi-microbial time challenge tests were performed. The selected 16 oz bottles of Di-Dak-Sol™ were coded as samples A and B. The microbiologist performing the tests only knew that the samples were Sodium Hypochlorite solution. Both samples (A and B) were sent to the third party laboratories for Multi-Microbial Time Challenge Studies.

The exposure times of 15, 30 and 60 minutes were selected because usually Di-Dak-Sol™ is used as the wetting agent for a wet to moist dressing, and is kept on the wound for more than 30 minutes. Additional studies were performed at 30 seconds for MRSE and VRE, to show that these two resistant bacteria found in wounds were killed when they were exposed to Di-Dak-Sol™. Both bacteria were killed in a short period of time even when extremely high concentrations of these resistant bacteria were present.

	Sample	Being Conc.	End Conc.	Log Reduction
Solution A 30 seconds	<i>MSRA ATCC BAA-38</i>	$1.94 * 10^8$	$<1 * 10^0$	>8
	<i>VRE ATCC 700221</i>	$1.9 * 10^7$	$<1 * 10^0$	>7
Solution A 15 minutes	<i>Pseudomonas aeruginosa ATCC 9027</i>	$1.5 * 10^8$	$<1 * 10^0$	>8
	<i>Proteus mirabilis ATCC 14153</i>	$8.1 * 10^7$	$<1 * 10^0$	>8
	<i>Escherichia coli ATCC 11775</i>	$7.7 * 10^7$	$<1 * 10^0$	>8
	<i>Serratia marcescens ATCC 13477</i>	$1.01 * 10^8$	$<1 * 10^0$	>8
	<i>MRSA ATCC BAA-38</i>	$3.2 * 10^7$	$<1 * 10^0$	>7
	<i>VRE ATCC 700221</i>	$1.8 * 10^7$	$<1 * 10^0$	>7
	<i>Aspergillus niger ATCC16404</i>	$8.2 * 10^6$	$7 * 10^0$	>6
	<i>Candida albicans ATCC10231</i>	$7.9 * 10^5$	$<1 * 10^0$	>6
Solution A	<i>Pseudomonas aeruginosa ATCC 9027</i>	$4.8 * 10^7$	$<1 * 10^0$	>7

30 minutes	<i>Proteus mirabilis</i> ATCC 14153	$3 * 10^8$	$<1 * 10^0$	>8
	<i>Escherichia coli</i> ATCC 11775	$3.88 * 10^8$	$<1 * 10^0$	>8
	<i>Serratia marcescens</i> ATCC 13477	$4.27 * 10^8$	$<1 * 10^0$	>8
	MRSA ATCC BAA-38	$1.94 * 10^8$	$<1 * 10^0$	>8
	VRE ATCC 700221	$1.9 * 10^7$	$<1 * 10^0$	>7
	<i>Aspergillus niger</i> ATCC16404	$4.3 * 10^7$	$7 * 10^0$	>6
	<i>Candida albicans</i> ATCC10231	$4.7 * 10^6$	$<1 * 10^0$	>6
Solution A 60 minutes	<i>Pseudomonas aeruginosa</i> ATCC 9027	$4.8 * 10^7$	$<1 * 10^0$	>7
	<i>Proteus mirabilis</i> ATCC 14153	$3 * 10^8$	$<1 * 10^0$	>8
	<i>Escherichia coli</i> ATCC 11775	$3.88 * 10^8$	$<1 * 10^0$	>8
	<i>Serratia marcescens</i> ATCC 13477	$4.27 * 10^8$	$<1 * 10^0$	>8
	MRSA ATCC BAA-38	$1.94 * 10^8$	$<1 * 10^0$	>8
	VRE ATCC 700221	$1.9 * 10^7$	$<1 * 10^0$	>7
	<i>Aspergillus niger</i> ATCC16404	$4.3 * 10^7$	$<1 * 10^0$	>7
	<i>Candida albicans</i> ATCC10231	$4.7 * 10^6$	$<1 * 10^0$	>6
Solution B 15 minutes	<i>Pseudomonas aeruginosa</i> ATCC 9027	$1.5 * 10^8$	$<1 * 10^0$	>8
	<i>Proteus mirabilis</i> ATCC 14153	$8.1 * 10^7$	$<1 * 10^0$	>8
	<i>Escherichia coli</i> ATCC 11775	$7.7 * 10^7$	$<1 * 10^0$	>8
	<i>Serratia marcescens</i> ATCC 13477	$1.01 * 10^8$	$<1 * 10^0$	>8
	MRSA ATCC BAA-38	$3.2 * 10^7$	$<1 * 10^0$	>7
	VRE ATCC 700221	$1.8 * 10^7$	$<1 * 10^0$	>7
	<i>Aspergillus niger</i> ATCC16404	$8.2 * 10^6$	$7 * 10^0$	>6
	<i>Candida albicans</i> ATCC10231	$7.9 * 10^5$	$<1 * 10^0$	>6
Solution B	<i>Pseudomonas aeruginosa</i> ATCC 9027	$4.8 * 10^7$	$<1 * 10^0$	>7

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	<i>Aspergillus niger</i> ATCC16404	$4.3 * 10^7$	$3 * 10^0$	>7
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Solution B 60 minutes	<i>Pseudomonas aeruginosa</i> ATCC 9027	$4.8 * 10^7$	$<1 * 10^0$	>7
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MRSA – Methicillin Resistant *Staphylococcus aureus*
VRE – Vancomycin Resistant *Enterococcus faecalis*