



Microbac Laboratories, Inc.

Wilson Division
3809 Airport Drive, NW
Wilson, NC 27896
(252) 237-4175 • (252) 237-9341 (fax)
www.microbac.com

Patton L. Whittington
HealthGuard UVC™
P.O. Box 1862
Pittsboro, NC 27312
Voice 601.551.7463
Fax 919.363.0593

March 19, 2012

Summary Protocol 12017

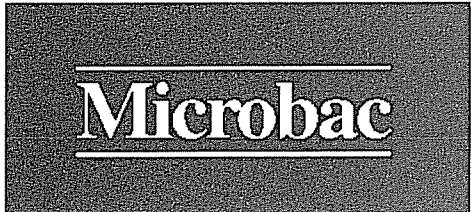
On March 12, 2012 the Health Guard UVC, Medical was brought to Microbac, Wilson Division for the purpose of conducting 60 and 120 second organism UV light exposure studies. The test organisms in the studies were Staphylococcus aureus, Actinobacter baumannii, and Clostridium difficile. Agar plates containing a film of one of these organisms on its surface were placed in random locations on all three shelves of the unit.

All plates from all locations tested had 100% killing of S. aureus and A. baumannii as a result of 60 and 120 second exposure times in the Health Guard UVC, Medical. In regard to the C. difficile part of the study, there was 100% killing as a result of 60 and 120 second exposure times except at locations E and F for the 120 second study where there was a 99.9% reduction in organism. If you convert the counts of the organisms to a \log_{10} number then the reduction in S. aureus at all locations is $5.80 \log_{10}$ and the reduction in A. baumannii is $6.15 \log_{10}$. Eventhough 1 colony was found on two of the C. difficile plates from the 120 second study, the \log_{10} of 1 is 0 so the \log_{10} reduction for all locations remains 4.00.

Sincerely,

A handwritten signature in black ink, appearing to read "Holly J. Dunham", with a long horizontal flourish extending to the right.

Holly J. Dunham, Ph.D.
Project Manager, Microbiology
Microbac, Wilson Division



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Certificate of Analysis

Lab Sample No.(s): W8784 -001-054

Date Reported:
 Date Received: 03/12/12

Received From:
 Patton Whittington
 Health Guard UVC
 PO Box 1862
 Pittsboro, NC 27312

P.O. No.: Not Stated
 Telephone: 919-387-8385
 Fax: 919-363-0593

Sample Matrix: Air
 Method Reference: Protocol 12017
 Notebook Reference: 6808-184

Spike amount: S. Aureus = 6.2×10^5 cfu/mL = Log_{10} 5.80 A. baumannii = 1.42×10^6 cfu/mL = log_{10} 6.15
 C.difficile = 1.0×10^4 cfu/mL = Log_{10} 4.0

Client Marks: A. = Shelf 1 – Right Front B. = Shelf 1 – Back Middle C. = Shelf 1 – Left Back
 D. = Shelf 2 – Right Back E. = Shelf 2 – Middle F. = Shelf 2 – Left Middle
 G. = Shelf 3 – Right Middle H. = Shelf 3 – Middle I. = Shelf 3 – Left Front

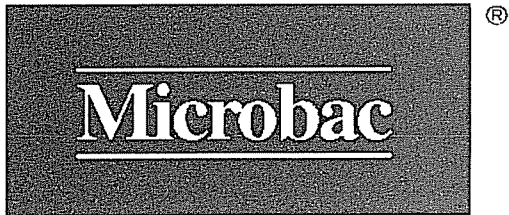
W8784-001-027 = 60 sec. Exposure

W8784-028-054 = 120 sec. Exposure

Table CFU Results

Work Oder #	Location	S. aureus	Work Oder #	Location	A.baumannii	Work Oder #	Location	C.difficile
W8784-001	A	<1	W8784-010	A	<1	W8784-019	A	<1
W8784-002	B	<1	W8784-011	B	<1	W8784-020	B	<1
W8784-003	C	<1	W8784-012	C	<1	W8784-021	C	<1
W8784-004	D	<1	W8784-013	D	<1	W8784-022	D	<1
W8784-005	E	<1	W8784-014	E	<1	W8784-023	E	<1
W8784-006	F	<1	W8784-015	F	<1	W8784-024	F	<1
W8784-007	G	<1	W8784-016	G	<1	W8784-025	G	<1
W8784-008	H	<1	W8784-017	H	<1	W8784-026	H	<1
W8784-009	I	<1	W8784-018	I	<1	W8784-027	I	<1
W8784-028	A	<1	W8784-037	A	<	W8784-046	A	<1
W8784-029	B	<1	W8784-038	B	<1	W8784-047	B	<1
W8784-030	C	<1	W8784-039	C	<1	W8784-048	C	<1
W8784-031	D	<1	W8784-040	D	<1	W8784-049	D	<1
W8784-032	E	<1	W8784-041	E	<1	W8784-050	E	1
W8784-033	F	<1	W8784-042	F	<1	W8784-051	F	1
W8784-034	G	<1	W8784-043	G	<1	W8784-052	G	<1
W8784-035	H	<1	W8784-044	H	<1	W8784-053	H	<1
W8784-036	I	<1	W8784-045	I	<1	W8784-054	I	<1

0 = <1



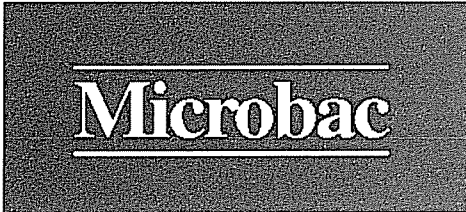
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Report for W8784-001-054 (Continued)

Table % Reduction Results

Work Oder #	Location	S. aureus	Work Oder #	Location	A.baumannii	Work Oder #	Location	C.difficile
W8784-001	A	100%	W8784-010	A	100%	W8784-019	A	100%
W8784-002	B	100%	W8784-011	B	100%	W8784-020	B	100%
W8784-003	C	100%	W8784-012	C	100%	W8784-021	C	100%
W8784-004	D	100%	W8784-013	D	100%	W8784-022	D	100%
W8784-005	E	100%	W8784-014	E	100%	W8784-023	E	100%
W8784-006	F	100%	W8784-015	F	100%	W8784-024	F	100%
W8784-007	G	100%	W8784-016	G	100%	W8784-025	G	100%
W8784-008	H	100%	W8784-017	H	100%	W8784-026	H	100%
W8784-009	I	100%	W8784-018	I	100%	W8784-027	I	100%
W8784-028	A	100%	W8784-037	A	100%	W8784-046	A	100%
W8784-029	B	100%	W8784-038	B	100%	W8784-047	B	100%
W8784-030	C	100%	W8784-039	C	100%	W8784-048	C	100%
W8784-031	D	100%	W8784-040	D	100%	W8784-049	D	100%
W8784-032	E	100%	W8784-041	E	100%	W8784-050	E	99.9%
W8784-033	F	100%	W8784-042	F	100%	W8784-051	F	99.9%
W8784-034	G	100%	W8784-043	G	100%	W8784-052	G	100%
W8784-035	H	100%	W8784-044	H	100%	W8784-053	H	100%
W8784-036	I	100%	W8784-045	I	100%	W8784-054	I	100%



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Report for W8784-001-054 (Continued)

Table Log₁₀ Reduction Results

Work Oder #	Location	S. aureus	Work Oder #	Location	A.baumannii	Work Oder #	Location	C.difficile
W8784-001	A	5.80	W8784-010	A	-6.15	W8784-019	A	-4.00
W8784-002	B	5.80	W8784-011	B	-6.15	W8784-020	B	-4.00
W8784-003	C	5.80	W8784-012	C	-6.15	W8784-021	C	-4.00
W8784-004	D	5.80	W8784-013	D	-6.15	W8784-022	D	-4.00
W8784-005	E	5.80	W8784-014	E	-6.15	W8784-023	E	-4.00
W8784-006	F	5.80	W8784-015	F	-6.15	W8784-024	F	-4.00
W8784-007	G	5.80	W8784-016	G	-6.15	W8784-025	G	-4.00
W8784-008	H	5.80	W8784-017	H	-6.15	W8784-026	H	-4.00
W8784-009	I	5.80	W8784-018	I	-6.15	W8784-027	I	-4.00
W8784-028	A	5.80	W8784-037	A	-6.15	W8784-046	A	-4.00
W8784-029	B	5.80	W8784-038	B	-6.15	W8784-047	B	-4.00
W8784-030	C	5.80	W8784-039	C	-6.15	W8784-048	C	-4.00
W8784-031	D	5.80	W8784-040	D	-6.15	W8784-049	D	-4.00
W8784-032	E	5.80	W8784-041	E	-6.15	W8784-050	E	*
W8784-033	F	5.80	W8784-042	F	-6.15	W8784-051	F	*
W8784-034	G	5.80	W8784-043	G	-6.15	W8784-052	G	-4.00
W8784-035	H	5.80	W8784-044	H	-6.15	W8784-053	H	-4.00
W8784-036	I	5.80	W8784-045	I	-6.15	W8784-054	I	-4.00

(-) = reduction

* - Log₁₀ of a colony count of 1 is 0. So Log₁₀ reduction is still -4.00.

Reviewed and Approved by:  3-19-12
 Holly Dunham, Ph.D.
 Project Manager