

## Supplemental Tables

**Supplemental Table 1.** Frequency of Common Skin and Environmental Contaminants Detected by Panfungal PCR in Histopathology Specimens, No. (%)

<b>Contaminant</b>	<b>Sites with Positive</b>	
	<b>Histopathology</b> (N=95)	<b>Control Sites</b> (N=118)
<i>Malassezia</i> spp.	29 (30.5)	33 (28.0)
<i>Aureobisidium pullulans</i>	2 (2.1)	3 (2.5)
<i>Yarrowia lipolytica</i>	0	1 (0.8)
<i>Talaromyces</i> spp.	1 (1.1)	0
<i>Trichosporon asahii</i>	3 (3.2)	0
<i>Cladospodium cladosporioides</i>	1 (1.1)	2 (1.7)

**Supplemental Table 2.** Fungal Organisms Identified Using Panfungal PCR-Based Assay<sup>a</sup>

<b>Organism</b>	<b>Sites with Angioinvasion (N=48)</b>	<b>Sites with Nonvascular Tissue invasion (N=47)</b>
<i>Acrophialophora nainiana</i>	0	1
<i>Actinomucor elegans</i>	5	1
<i>Apophysomyces elegans</i>	3	2
<i>Apophysomyces variabilis</i>	4	1
<i>Aspergillus flavus/oryzae</i>	4	3
<i>Aspergillus gracilis</i>	1	0
<i>Aspergillus penicillioides</i>	1	0
<i>Aspergillus tamarai</i>	0	0
<i>Aspergillus terreus</i>	1	1
<i>Aspergillus vitricola</i>	1	0
<i>Beauveria bassiana</i>	1	0
<i>Chaetomium murorum</i>	0	1
<i>Fusarium</i> spp.	2	1
<i>Fusarium equiseti</i>	0	1
<i>Fusarium solani</i>	0	3
<i>Mucor circinelloides</i>	1	1
<i>Pyrenochaetopsis</i> spp.	0	1
<i>Pythium aphanidermatum</i>	2	1
<i>Rasamsonia argillacea</i>	1	0

<i>Rhizopus oryzae</i>	2	1
<i>Saksenaea erythrospora</i>	9	0
<i>Saksenaea trapezispora</i>	0	1
<i>Saksenaea vasiformis</i>	20	4
<i>Scedosporium apiospermum</i>	0	1
<i>Scedosporium aurantiacum</i>	2	0
<i>Ustilago</i> spp.	1	0

---

<sup>a</sup> Injury sites may have more than one fungus identified, so numbers will sum to more than the total. Contaminants detailed in Supplemental Table 1 and *Candida* spp. were excluded from the listing.

**Supplemental Table 3.** Comparison of PCR-based Assay Versus Histopathology for Identification of Fungus in Formalin-fixed Paraffin-embedded Tissue

<b><u>PCR assay</u></b>	<b><u>Any Histopathology</u><sup>a,b</sup></b>		<b>Total</b>
	<b>Negative for any</b>	<b>Positive for fungal</b>	
	<b>fungal elements</b>	<b>elements</b>	
	<b>(Controls)</b>	<b>(Cases)</b>	
<b>Negative for fungal DNA</b>	117	35	152
<b>Positive for fungal DNA<sup>c</sup></b>	1 <sup>d</sup>	60	61
<b>Total</b>	118	95	213

  

	<b><u>Histopathology Restricted to Angioinvasion</u></b>		<b>Total</b>
	<b><u>Subset<sup>e</sup></u></b>		
	<b>Negative for</b>	<b>Positive for</b>	
	<b>Angioinvasion</b>	<b>Angioinvasion</b>	
	<b>(Controls)</b>	<b>(Cases)</b>	
<b>Negative for fungal DNA</b>	117	8	125
<b>Positive for fungal DNA<sup>c</sup></b>	1 <sup>d</sup>	40	41
<b>Total</b>	118	48	166

<sup>a</sup> Includes both angioinvasion nonvascular tissue invasion.

<sup>b</sup> Kappa coefficient for comparison related to any histopathology is 0.646 (95% confidence interval: 0.546-0.745); McNemar's test p-value is <0.0001.

<sup>c</sup> Excludes skin and environmental contaminants (**Supplemental Table 1**).

<sup>d</sup> False positive is *Alternaria* spp.

<sup>e</sup> Kappa coefficient for comparison related to angioinvasion is 0.862 (95% confidence interval: 0.775-0.949); McNemar's test p-value is 0.020.

**Supplemental Table 4.** Comparison of Panfungal PCR and Semi-nested PCR<sup>a</sup>

<b>Fungal Positivity Findings, No. (%)</b>	<b>Panfungal Result<sup>b</sup></b>	<b>Semi-nested Result<sup>b</sup></b>	<b>Kappa Coefficient</b>
<b>Histopathology positive specimens</b>			
	<b>62</b>	<b>62</b>	
<b>sent to both laboratories<sup>c</sup></b>			
No fungi	15 (24.2)	6 (9.7)	0.171 (-0.090, 0.432)
Any fungi	47 (75.8)	56 (90.3)	
Fungi identified at genus level	47 (75.8)	56 (90.3)	0.171 (-0.090, 0.432)
Order Mucorales	29 (46.8)	41 (66.1)	0.494 (0.297, 0.692)
<i>Saksenaea</i> spp. <sup>d</sup>	21 (33.9)	15 (24.2)	0.458 (0.222, 0.694)
<i>Aspergillus</i> spp.	15 (24.2)	28 (45.2)	0.423 (0.214, 0.631)
<i>Fusarium</i> spp.	5 (8.1)	8 (12.9)	0.402 (0.046, 0.759)
<b>Angioinvasion specimens sent to both</b>			
	<b>37</b>	<b>37</b>	
<b>laboratories</b>			
No fungi	8 (21.6)	1 (2.7)	0.183 (-0.131, 0.497)
Any fungi	29 (78.4)	36 (97.3)	
Fungi identified at genus level	29 (78.4)	36 (97.3)	
Order Mucorales	22 (59.5)	31 (83.8)	0.318 (0.044, 0.593)
<i>Saksenaea</i> spp. <sup>d</sup>	17 (46.0)	13 (35.1)	0.446 (0.161, 0.731)
<i>Aspergillus</i> spp.	8 (21.6)	17 (46.0)	0.377 (0.113, 0.641)
<i>Fusarium</i> spp.	2 (5.4)	5 (13.5)	0.226 (-0.218, 0.670)

<sup>a</sup> Results in this table are presented for all specimens assessed (multiple specimens from one injury site are not collapsed for the site).

<sup>b</sup> Five true negative control specimens (surgical specimens unrelated to trauma) were also analyzed. Four were negative at both laboratories. One control specimen had a false positive for *Aspergillus* spp. with the semi-nested assays, while the panfungal assay was negative.

<sup>c</sup> Includes both angioinvasion and nonvascular tissue invasion.

<sup>d</sup> Specimens identified as *Apophysomyces elegans* were included with *Saksenaea* spp. as LADR was unable to differentiate between the two organisms in the semi-nested assays.