Swab Test Using Enzyme-Linked Immunosorbent Assay (ELISA) Technique for Diagnosis of Brown Recluse Spider Bites

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Missouri: Brown Recluse Central

Missouri lies near the center of the habitat for the brown recluse spider. The death of a St. Louis woman in 2008 was attributed to complications from a brown recluse bite.

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There is no way to confirm a diagnosis of a recluse spider bite.” --An emergency room physician, commenting on the above death, UPI, April 5, 2008. A survey of ER physicians in the endemic area has shown the economic viability of a test for these spider bites.
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Which of these is a spider bite? These four patients were all referred for spider bites. Answer below pictures.

<table>
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<tr>
<th>Step 1-2:</th>
<th>Using venom Ab raised in NZ white rabbits, immobilize the fusion-tagged venom from the lysate; wash away unbound protein.</th>
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<td>Steps 3-4:</td>
<td>Bind venom Ab to immobilized venom protein; wash away unbound protein.</td>
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<td>Steps 5-6:</td>
<td>Elute protein interaction complex and Analyze on SDS-PAGE.</td>
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The resulting “Super polyclonal antibodies (super polys) can recognize spider venom in femtogram amounts”.

The rabbit venom Ab can recognize venom up to 5 days on the skin and sometimes beyond:

| First documented Turkish case (3) | ELISA results from gauze swab |

Funding, Patent, References

- Phase II SBIR Score ’09: 24
- Patent: Pending 11/550,130
- References: