

Newly discovered 'micro-organ' could lead to innovative vaccines

Researchers have identified a brand new 'micro-organ' inside the immune system of mice and humans – the first discovery of its kind for decades – and it could put scientists on the path to developing more [effective vaccines](#) in the future.

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The researchers from the Garvan Institute of Medical Research in Australia spotted thin, flat structures on top of the immune system's [lymph nodes](#) in mice, which they've dubbed "subcapsular proliferative foci" (or SPF for short).

These SPFs appear to work like biological headquarters for planning a counter-attack to infection.

These SPFs only appear when the mice immune systems are fighting off infections that have been encountered before.

What's more, the researchers detected SPFs in human lymph nodes too, suggesting our bodies react in the same way.

"When you're fighting bacteria that can double in number every 20 to 30 minutes, every moment matters," [says senior researcher Tri Phan](#).

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Now we know how the body does it, we might be able to improve [vaccine techniques](#) – vaccines currently focus on making memory B cells, but this study suggests the process could be made more efficient by also looking at how they transform into plasma cells through the inner workings of an SPF.

"So this is a structure that's been there all along, but no one's actually seen it yet, because they haven't had the right tools," [says Phan](#).

Read full, original post: [Scientists Have Discovered a Brand New 'Micro-Organ' in The Human Immune System](#)