



Antibody profiling against bacterial cell walls. Yes, really.

Bacterial cell walls are made of peptidoglycan (PGN) biopolymers based on muropeptides. They shape immune responses in infection, inflammation, and autoimmunity. We haven't had tools to profile which specific PGN structures drive those responses.

Now we do.

Meet the **PEPperCHIP® Peptidoglycan Microarray**. The first and only tool that lets you:

- Screen of hundreds of muropeptides in one assay
- Map PGN signatures to infectious diseases
- Correlate anti-PGN antibodies with autoimmune diseases
- Discover microbiome-immune crosstalk signatures

See the data:



PEPperCHIP® Peptidoglycan (PGN) Microarray

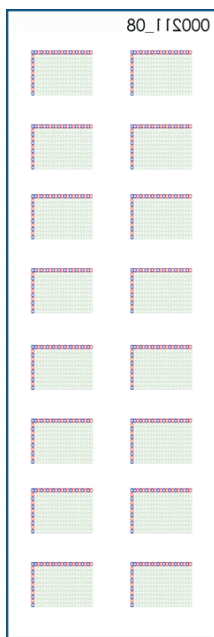
Product: PEPperCHIP® Microarray

Microarray Content: Peptidoglycan (PGN) is a complex biopolymer crucial for cell wall integrity and function of all bacteria. It surrounds the bacterial cytoplasmic membrane and is the outmost “face” of bacterial cell walls. While the strong inflammatory properties of PGN and its derived muropeptides are well-documented in human innate immune responses, adaptive immunity, including antibody responses to PGN, remain inadequately characterized (Tsouka et al., Angew. Chem. Int. Ed. 2025, 64, e202420874. doi: 10.1002/anie.202420874).

The PEPperCHIP® Peptidoglycan (PGN) Microarray is the first available tool to enable a high-throughput screening of antibody responses against 288 unique muropeptides, representing the most common amino acid variations of the peptide stem of bacterial cell walls with an N-terminal N-acetylmuramic acid (MucNAc).

The peptide stem of muropeptides is made of three to five amino acids including a number of less common amino acids like D-glutamic acid, homoserine, D-alanine, diamminobutanoic acid or D-glutamine with glycine and other interbridges between the peptide units.

Microarray Layout:



Each PEPperCHIP® Peptide Microarray is marked with microarray ID on the backside of the glass slide. The glass slide is accurately placed in an incubation tray with the microarray surface up if the microarray ID appears in the **top right corner** in a **mirror view** manner.

The PEPperCHIP® Peptidoglycan Microarray contains 288 different muropeptides printed in triplicate and enables the analysis of **up to 16 samples per microarray**.

The PEPperCHIP® Peptidoglycan Microarray contains additional shortened FLAG control peptides (DDDDK, 105 spots).

Microarray Layout Files: Excel: PEPperCHIP Peptidoglycan Microarray Layout.xlsx

Mapix / GenePix® Pro: PEPperCHIP Peptidoglycan Microarray.gal