PEPperCHIP® Peptidoglycan (PGN) Microarray
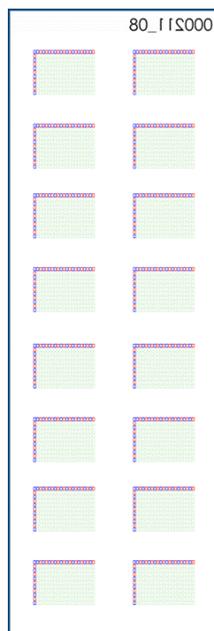
Product: PEPperCHIP® Microarray

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, diaminobutanoic 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