



PEPperCHIP® Peptide Microarrays for Cancer Research

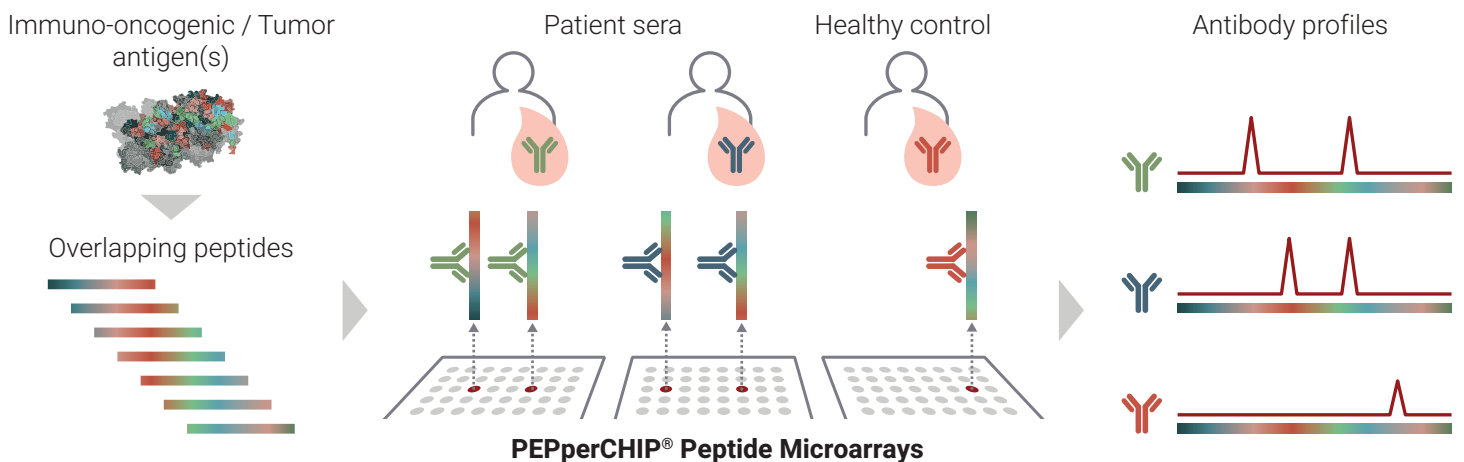
Analyze cancer frameshift and point mutations. Monitor tumor-specific antibody responses. Identify neo-epitopes, in one single assay.

Screen and characterize tumor or patient-specific antibody responses against tens and thousands of peptides in a single assay with PEPperCHIP® Peptide Microarrays for Cancer Research.

Browse our selection of PEPperCHIP® Standard Peptide Microarrays with pre-designed peptide libraries containing known human immuno-oncogenic antigens converted into overlapping peptides, learn more about our personalized PEPperCHIP® Cancer Neoepitope Microarrays, or design your own PEPperCHIP® Custom Peptide Microarrays with any tumor-specific peptide content of your choice.

APPLICATIONS

- Validation of therapeutic antibodies against tumor-associated or immuno-oncogenic antigens
- Identification of immunogenic epitopes for immunotherapy, early disease detection, or the development of cancer vaccines
- Monitoring of patient-specific anti-tumor antibody responses
- Discovery of prognostic cancer neoepitopes



● **Antibody fingerprinting workflow for cancer research using PEPperCHIP® Peptide Microarrays.** Immunogenic or patient-specific tumor antigens are converted into overlapping peptides and printed onto glass slides. Patient sera is incubated on the microarray and antibodies present in the sample bind their corresponding epitopes or neoepitopes on the microarray surface. The resulting response profiles can be compared across different samples to identify and monitor antibody reactivity against immuno-oncogenic tumor antigens for immunotherapy, cancer vaccine or IVD/CDx development.

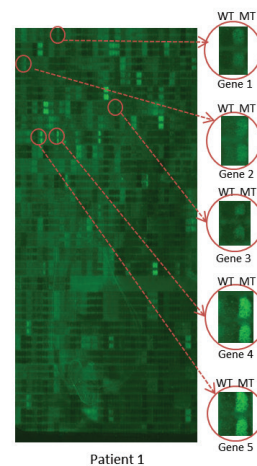
PEPperCHIP® Standard Peptide Microarrays for Cancer Research

Microarray details	PEPperCHIP® Melanoma Antigen Microarray	PEPperCHIP® Oncovirus Epitope Microarray	PEPperCHIP® Tumor Antigen Microarray
Microarray content	21 melanoma antigens (e.g. MAGE 1-4, MUC18, p53) as 4,125 overlapping linear peptides	3,653 linear B-cell epitopes of human oncoviruses, including 7 citrullinated peptides with corresponding arginine variants	22 tumor antigens (e.g. p53, NY-ESO-1, SOX-2) as 4,319 overlapping linear peptides
Peptide lengths and overlaps	15 amino acids with 13 amino acid overlap	3 amino acids to 20 amino acids depending on epitope length; longer epitopes converted into overlapping 20 amino acid peptides	15 amino acids with 13 amino acid overlap
Recommended application	Analysis of melanoma-specific antibody responses	Multiplexed screening of anti-oncovirus antibody responses	Multiplexed and isotype-specific epitope mappings against general tumor antigens

PEPperCHIP® Custom Peptide Microarrays for Cancer Research

PEPperCHIP® Cancer Neoepitope Microarrays

- Translate cancer frameshift and point mutations into peptide microarrays
- Peptide content can be derived from sequencing or genomic databases; enables direct comparison of wild-type peptides with mutant peptides
- Microarray content: Up to 5,500 peptides (~2,750 wild-type and mutant peptide pairs)
- Recommended application: Profiling of antibody responses for targeted cancer immunotherapy, antibody monitoring during immunotherapy



🔍 **Comparison of antibody responses against wild-type and mutant cancer antigen peptides derived from breast cancer patients.** An example application of PEPperCHIP® Cancer Neoepitope Microarrays, showing different antibody response profiles of patient sera to cancer point mutations.

Figure derived from Quendro et al.: Discovery of breast putative cancer antigens using an integrative platform of genomics-driven immunoproteomics. *Proteomics* 2017, Aug;17(15-16).

PEPperCHIP® Custom Peptide Microarray

- Peptide content derived from any antigen or peptide collection for anti-cancer antibody profiling
- Microarray content: Up to 5,500 peptides (standard chip format) or up to 35,500 peptides (discovery chip format; analyze multiple antigens or samples in a single assay)
- Recommended application: Epitope discovery and high-throughput cohort screening of patient sera

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