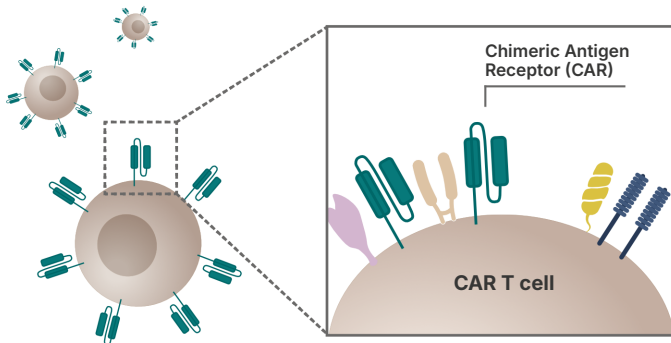


Illuminate the hidden Cell Surface Architecture of CAR T cells



Protein interactomics offer unique insight into the molecular networks driving CAR T cell activity.

Chimeric Antigen Receptor (CAR) design not only dictates antigen recognition, but also shapes receptor clustering, membrane organization, and downstream signaling. These features are closely linked to therapeutic efficacy, safety, and persistence. By mapping the protein interaction landscape of CAR T cells, researchers can connect CAR design to functional outcomes, identify predictive biomarkers, and accelerate the development of more precise and durable next-generation immunotherapies.

The Pixelgen Proxiome CAR T FMC63, FLAG and G4S products bring single-cell protein interactomics to CAR T cell analysis.

**Pixelgen Proxiome
FMC63 Barcoded Antibody v2**

Part nr.: **PP102**

**Pixelgen Proxiome
FLAG Barcoded Antibody v2**

Part nr.: **PP103**

**Pixelgen Proxiome
G4S Barcoded Antibody v2**

Part nr.: **PP104**

What are FMC63, FLAG and G4S?

FMC63 is a specific CD19-targeting domain in various approved CAR T cell products. The FLAG tag is a short peptide sequence which can be added to a CAR to facilitate detection or purification. The G4S is a repetitive peptide linker sequence commonly used in CARs.

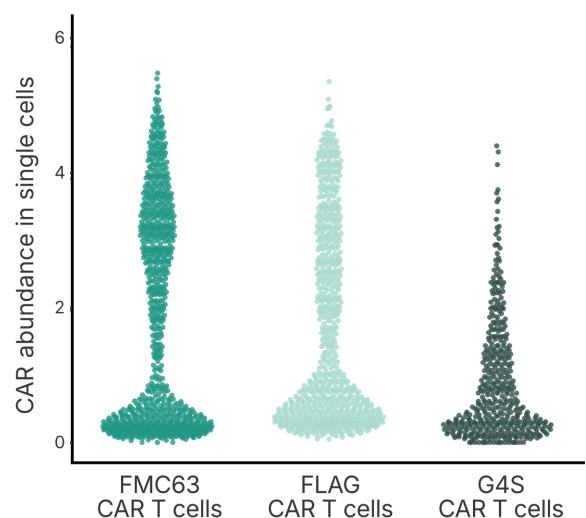
Why should I use the Pixelgen Proxiome CAR T products?

Together with the Pixelgen Proxiome Kit v2, these antibodies allow thorough mapping of the cell surface architecture, including the membrane protein interactome, of CAR T cell products and patient samples.

How to use the Pixelgen Proxiome CAR T products?

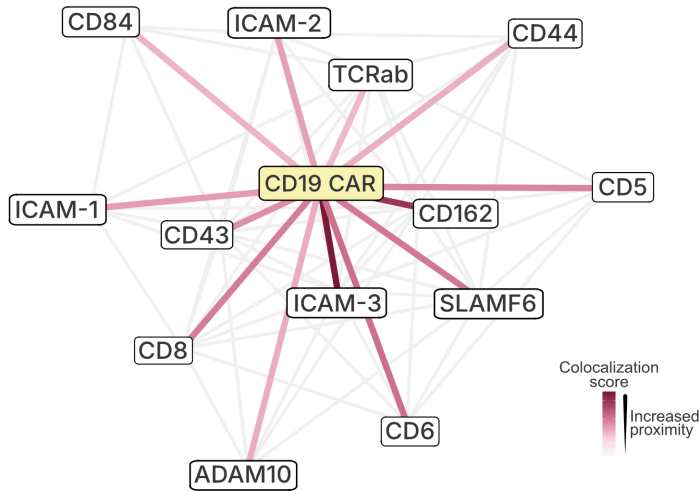
Our anti-FMC63, -FLAG and -G4S barcoded antibodies are used as spike-ins for the Pixelgen Proxiome Immuno 155 v2 panel to enable CAR detection. Two antibodies can be used in one experiment.

CAR detection in various CAR T cell products



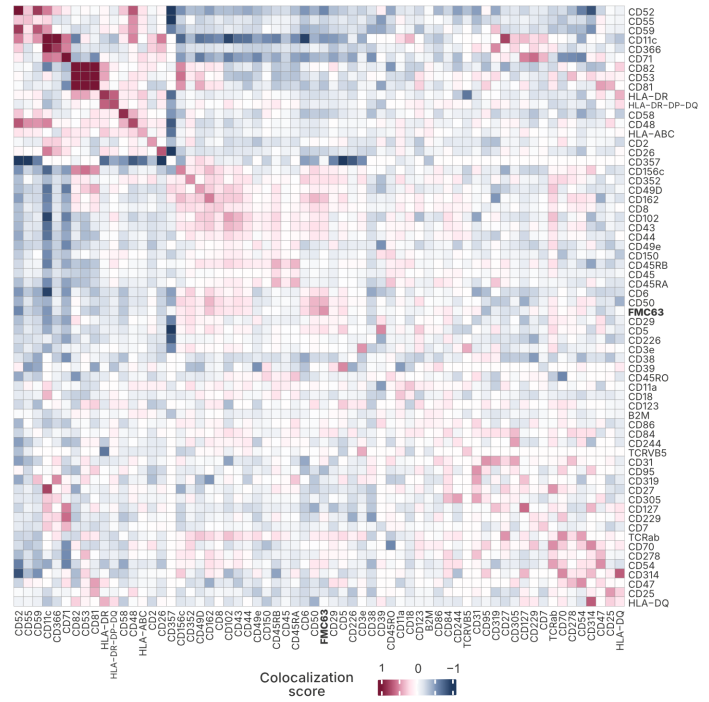
CAR detection can be achieved using either the FMC63 (PP102), the FLAG (PP103) or the G4S (PP104) targeting antibody. All products allow researchers to gate on CAR+ cells and to perform detailed studies of the local and global surface architecture of the chimeric antigen receptor and 155 additional surface proteins.

The Proximity Network Assay enables studies of the CAR proxime

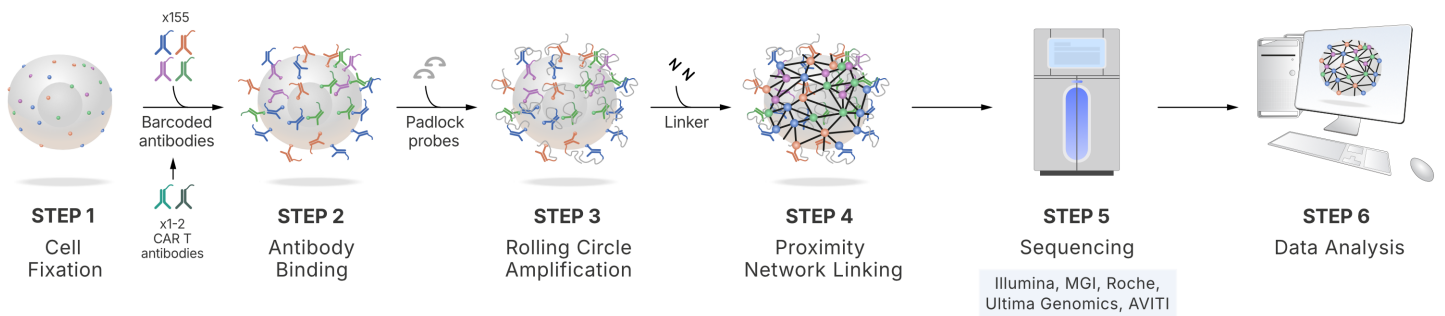


The assay enables detailed characterization of the colocalization partners of individual receptors. The partners of the FMC63-based CD19-targeting CAR can be seen in the network.

Protein interactome of CD19-targeting CAR T cells



The full interactome of individual cell populations can be visualized using a colocalization heatmap.



Workflow of the Proximity Network Assay (PNA)

The Pixelgen Proxiome Kit is based on the Proximity Network Assay, a technology for nanoscale spatial analysis of immune cell proteins. Cells in suspension are labelled with barcoded antibodies and amplified *in situ* by Rolling Circle Amplification (RCA). Linker oligos are bound to the RCA products, connecting

neighboring proteins. The connections are read out by standard NGS. Single cell surface maps, Proximity Networks, are reconstructed using the Pixelator analysis pipeline, generating spatial statistics for quantitative analysis of protein abundance and organization across thousands of single cells.

Illuminating the hidden cell surface architecture of CAR T cells to power the next generation of cancer therapies

Pixelgen Proxiome
FMC63 Barcoded Antibody v2
PP102

Pixelgen Proxiome
FLAG Barcoded Antibody v2
PP103

Pixelgen Proxiome
G4S Barcoded Antibody v2
PP104

Scan for product page



Spike-in to: Pixelgen Proxiome Kit v2 (8, 16, 32 reactions)
PROXIMM0028, PROXIMM00216 and
PROXIMM00232

The products can be combined with the
Pixelgen Proxiome v2
Custom Conjugation Kit

