PICO technology

A platform technology for ultra-sensitive analysis of proteins and protein interactions with digital PCR

The Protein Interaction Coupling (PICO) technology enables the highly sensitive detection and quantification of proteins and protein interactions in their native biological environment with femtomolar sensitivity. The PICO workflow eliminates many potential pitfalls of classical immunoassays, such as western blot or ELISA, by having ultra high sensitivity, quantitative, zero background and high parallelism potential. The main innovation is the compartmentalized conversion of an antibody binding-based protein detection assay into a dPCR-based DNA detection event.

For the PICO assay a pair of antibody of your choice is required per target. The target can be a single protein, a post-translational modification (PTM), or protein interactions. A target bound by the two different antibodies, termed ‘couplex’, is the molecular detection unit of the assay. The couplexes are detected and counted using QIAGEN’s QIAcuity Digital PCR System and the number of target molecules are calculated by our web-based AMULATOR software.