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ASIA EDITION

Taiwan's Syncell launches ultra-high precision photolabeling kit for nanoscopic proteomic discovery

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Syncell Inc., US and Taiwan based nanoscopic proteomics company, has announced the launch of its Synlight-Pure™ Kit, an ultra-high-precision photolabeling reagent for the company's Microscoop® Mint platform.

The kit allows life scientists to reveal unbiased proteomes within the interaction distance of 25 nanometers at microscopy-selected regions of interest, offering unmatched high specificity for a true discovery approach in tissue or cell samples.

The Synlight-Pure Kit complements Syncell's Synlight-Rich™ Kit in high-precision specificity versus large-coverage sensitivity and does not require any hardware or software upgrades. It offers a streamlined workflow for microscopy-guided protein purification and deep subcellular exploration, particularly at the molecular interaction level.

Used with the Microscoop Mint platform, it can capture all proteins within a biological region of interest while minimizing off-target biotinylation and artifacts associated with engineered labels. Researchers can now profile cells, organelles, or even sub-organelle regions. They can also probe neighbourhood proteomes of features like cell membranes, cell-cell interfaces, inter-organelle contact sites, granular structures, and other small features, with higher sensitivity and specificity than traditional protein analysis approaches.

Existing technologies have struggled to fully unlock the proteome of the cell plasma membrane, which governs how molecules enter, exit, and signal within cells. Its full proteomic landscape, or surfaceome, has long eluded discovery. Syncell's Microscoop Mint platform, combined with Synlight-Pure enrichment, overcomes this barrier by isolating plasma-membrane proteins with nanometer precision. When integrated with LC–MS analysis, the system identifies thousands of proteins with exceptional specificity while discovering previously unknown targets for drug discovery. This breakthrough opens a new window into how receptors and transporters orchestrate cellular communication and disease pathways.