



Product Specifications

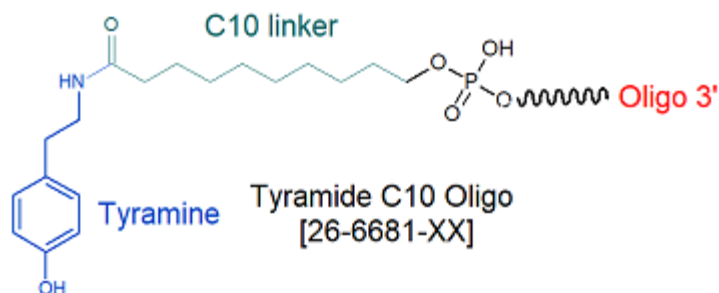
Custom Oligo Synthesis, antisense oligos, RNA oligos, chimeric oligos, Fluorescent dyes, Affinity Ligands, Spacers & Linkers, Duplex Stabilizers, Minor bases, labeled oligos, Molecular Beacons, siRNA, phosphonates Locked Nucleic Acids (LNA); 2'-5' linked Oligos

Oligo Modifications

For research use only. Not for use in diagnostic procedures for clinical purposes.

Tyramide C10 Oligo

Category	Affinity Ligands
Modification Code	Tyr-C10
Reference Catalog Number	26-6681
5 Prime	Y
3 Prime	N
Internal	N
Molecular Weight(mw)	370



Multiparametric imaging allows researchers to measure the expression of many biomarkers simultaneously, allowing detailed characterization of cell microenvironments. One such technique, CODEX, allows fluorescence imaging of >30 proteins in a single tissue section. In the commercial CODEX system, primary antibodies are conjugated to DNA barcodes. This modification can result in antibody dysfunction, and development of a custom antibody panel can be very costly and time consuming as trial and error of modified antibodies proceeds. To address these challenges, we developed novel tyramide-conjugated DNA barcodes that can be used with primary antibodies via peroxidase-conjugated secondary antibodies. This approach results in signal amplification and imaging without the need to conjugate primary antibodies. When combined with commercially available barcode-conjugated primary antibodies, working antibody panels can be quickly developed. This report presents methods to perform antibody staining using a commercially available automated tissue stainer and in situ hybridization imaging on a CODEX platform.

In this report, they authors present a generalizable method for CODEX imaging with unmodified primary antibodies and signal amplification that uses novel tyramide-conjugated DNA barcodes (tyramide-barcode). This allows the benefits of tyramide signal amplification, but image the targets in an indexed way using a commercial CODEX imaging system. This approach is flexible, and demonstrate that it can be used with in situ hybridization probes. In order to make this system workable, they developed a staining approach that allowed to perform both tyramide-barcode staining and standard CODEX staining using a commercially available automated tissue stainer, made possible using a custom coverslip holder. This drastically reduces the amount of manual labor required for CODEX staining and has the potential to improve staining reproducibility.