IRDye800 is a near-IR fluorescent dye used for labeling oligonucleotides. IRDye800 has an absorbance maximum of 778 nm and an emission maximum of 794 nm. The combination of narrow absorbance/emission bands and low-background autofluorescence in the IR region results in higher S/N ratios and thus enhanced detection sensitivity compared with fluorophores with absorbance/emission maxima in the visible region (1). IRDye800 is used as a reporter moiety in real-time PCR applications. For such probes, IRDye800 is most commonly paired with the dark quencher QC-1, as the two have excellent spectral overlap (2).

IRDye800 can be used to label DNA oligos for use as hybridization probes in a variety of in vivo and in vitro research or diagnostic applications, as well as for structure-function studies of DNA, RNA, and protein-oligonucleotide complexes. Oligos labeled with IRDye800 at the 5’-end can be used as PCR and Sanger DNA sequencing primers to generate fluorescently-labeled PCR, sequencing or genetic analysis (AFLP, microsatellite) products (3-5). References