FAM-TEG Azide

6-FAM (6-carboxyfluorescein)-TEG Azide is a 6-FAM fluorescent dye attached to a 15-atom mixed polarity triethylene glycol spacer with an azide group at the end of the spacer. 6-FAM is the most commonly used fluorescent dye for labeling oligonucleotides, and is reactive and water-soluble, with an absorbance maximum of 492 nm and an emission maximum of 517 nm. The presence of the azide allows the user to use “Click Chemistry” (a [3+2] cycloaddition reaction between alkynes and azides, using copper (I) iodide as a catalyst) to conjugate the 6-FAM-TEG Azide to a terminal alkyne-modified oligo with extremely high regioselectivity and efficiency (1,2). Preparation of the alkyne-modified oligo can be achieved using the 5’-Hexynyl modifier (see its respective tech sheet for details). The spacer acts to minimize steric hindrance between the biotin moiety and the oligo.

References