AAT Bioquest, Inc.
520 Mercury Drive, Sunnyvale, CA 94085
Tel: 408-733-1055; Fax: 408-733-1304
www.aatbio.com; E-Mail: info@aatbio.com

Product Information Sheet

Product Number: 17068

Product Name: MagaDye™ 4 Color Sanger Sequencing Terminator Kit

Soluble in: Water

Storage Conditions: Freeze (<-15 °C), Minimize light exposure.

Expiration Date: 12 months upon receiving

Kit Components:

	Component A	**Component B**	**Component C**	**Component D**
Name	MagaDye™ 535-ddGTP	MagaDye™ 561-ddATP	MagaDye™ 588-ddTTP	MagaDye™ 613-ddCTP
MW	2342.21	2366.32	2360.26	2463.43
Ex/Em	503/536nm	498/561nm	498/588nm	498/614nm
Concentration	200 uM	200 uM	200 uM	200 uM
Amount	5 nmoles in 25 uL H_2O	5 nmoles in 25 uL H_2O	5 nmoles in 25 uL H_2O	5 nmoles in 25 uL H_2O
Appearance	Orange solution	Red solution	Red solution	Purple solution
HPLC Purity	≥ 95%	≥ 95%	≥ 95%	≥ 95%

Applications:
Sanger sequencing, also known as the chain termination method, is a technique for DNA sequencing based upon the selective incorporation of chain-terminating dideoxynucleotides (ddNTPs) by DNA polymerase. It was developed by Frederick Sanger and colleagues in 1977. Although the newer NGS technologies are becoming common in clinical research labs due to their higher throughput capabilities and lower costs per sample, Sanger sequencing with 99.99% accuracy is still the "gold standard" for clinical research sequencing. Sanger sequencing results in the formation of extension products of various lengths terminated with dideoxynucleotides at the 3′ end. The extension products are then separated by Capillary Electrophoresis. The molecules are injected by an electrical current into a long glass capillary filled with a gel polymer. The four distinct fluorescent ddNTPs labeled with BigDye®, (BigDye® is the trademark of ThermoFisher) are the critical components for performing Sanger sequencing. MagaDye™ 4 Color Sanger Sequencing Terminator Kit provides four distinct fluorescent ddNTPs that emit 4 different fluorescence colors when illuminated by 488 nm laser beam. The four MagaDye™ fluorescent ddNTP terminators have almost identical spectra to the four BigDye ddNTPs used in Sanger sequencing. Each ddTNP is provided at 5 nmoles.