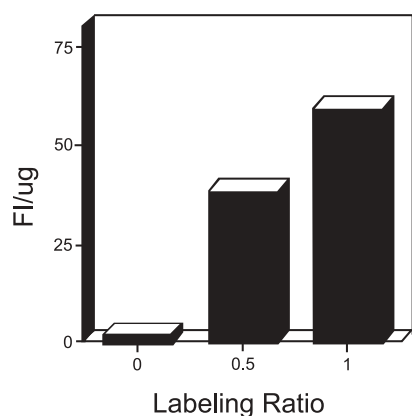
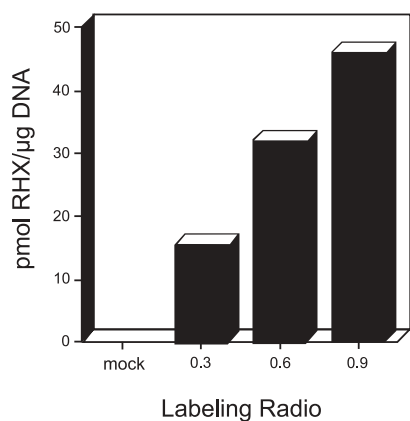


# Nucleic acid labeling and modification

## General applications



### Label IT® Nucleic Acid Modifying Reagents

- ◆ Direct, covalent attachment of amine or carboxylic acid functional groups to any nucleic acid.
- ◆ Easy to use - one reagent.
- ◆ Easily control the scale and extent of the modifying reaction.
- ◆ This is the only reagent of its kind.

**Label IT® Modifying Reagents** directly modify DNA and RNA simply and reproducibly with NH<sub>2</sub> or COOH functional groups, by non-enzymatic covalent attachment to guanine residues. Unlike, enzyme-mediated labeling methods, the simplicity of this chemical labeling reaction allows direct control over the level of modification - one can easily determine an optimal modification level for the particular application. The ability to modify DNA and RNA simply and reproducibly with NH<sub>2</sub> or COOH functional groups represents a large technological step forward in the nucleic acid field. Modified nucleic acids are ideal for use in a variety of applications :

- ◆ Labeling with hydrazine, amine, or amine-reactive dyes
- ◆ Attachment to activated glass surfaces, or hydrazide-coated beads or plates
- ◆ Conjugation to proteins or peptides using their activated carboxylic acid groups or water-soluble carbodiimide chemistry.

Each kit contains Label IT® modifying reagent, reconstitution solution, 10X labeling buffer A, denaturation buffer D1, neutralization buffer N1, G50 microspin columns.

Description	Cat.#	Qty
Label IT® Amine modifying Kit	J45961	25 tests
	J45960	100 tests
Label IT® COOH modifying Kit	J52651	25 tests
	J52650	100 tests

# Nucleic acid labeling and modification

## Labeled and modified nucleotides

### Fluorescent Labeled nucleotides

Fluorescent nucleotides are used as building blocks for amplifications (PCR). The fluorophore should not affect the polymerase activity, while eliciting excellent brightness in downstream processes.

\* NTPs are available labeled by FluoProbes® dyes at various positions using different lengths of linkers, and covering the whole UV/VIS spectrum. They are supplied ready to use in aqueous solutions, at 5 mM concentration.

FluoProbes® dyes results in nucleotides conjugates that have superior properties compared to most of other commercially available dye-labeled NTPs :

- ◆ Excellent solubility in water
- ◆ Higher signal intensity
- ◆ Better photostability
- ◆ Lower molecular weight of dye resulting in minimal steric hindrance

\* All nucleotides can also be provided labeled by several other classic or commercial dyes (over 40), on a custom basis (please inquire).

<b>FluoProbes® Labels</b>	<b>425A</b>	<b>495A</b>	<b>520A</b>	<b>532A</b>	<b>550A</b>	<b>565A</b>	<b>590A</b>
<b>λ max absorption :</b>	<b>436</b>	<b>495</b>	<b>525</b>	<b>532</b>	<b>554</b>	<b>563</b>	<b>594</b>
<b>λ max emission :</b>	<b>484</b>	<b>527</b>	<b>532</b>	<b>553</b>	<b>576</b>	<b>592</b>	<b>624</b>
N6-(4-Amino)butyl-ATP	FP-FQ4920 30 µl	FP-FQ4930 30 µl	FP-FQ4940 30 µl	FP-FQ4950 30 µl	FP-FQ4960 30 µl	FP-FQ4970 30 µl	FP-FQ4980 30 µl
N6-(6-Amino)hexyl-ATP	FP-FQ5000 30 µl	FP-FQ5010 30 µl	FP-FQ5020 30 µl	FP-FQ5030 30 µl	FP-FQ5040 30 µl	FP-FQ5050 30 µl	FP-FQ5060 30 µl
8-[(4-Amino)butyl]-amino-ATP	FP-FQ4610 30 µl	FP-FQ4620 30 µl	FP-FQ4630 30 µl	FP-FQ4640 30 µl	FP-FQ4650 30 µl	FP-FQ4660 30 µl	FP-FQ4670 30 µl
8-[(6-Amino)hexyl]-amino-ATP	FP-FQ4690 30 µl	FP-FQ4700 30 µl	FP-FQ4710 30 µl	FP-FQ4720 30 µl	FP-FQ4730 30 µl	FP-FQ4740 30 µl	FP-FQ4750 30 µl
EDA-ADP	FP-FQ4810 30 µl	FP-FQ5650 20 µl	FP-FQ4820 30 µl	FP-FQ5660 20 µl	FP-FQ5670 20 µl	FP-FQ4830 30 µl	FP-FQ4840 30 µl
EDA-ATP	FP-FQ4860 30 µl	FP-FQ5740 20 µl	FP-FQ4870 30 µl	FP-FQ5750 20 µl	FP-FQ5760 20 µl	FP-FQ4880 30 µl	FP-FQ4890 30 µl
EDA-AppNHp(EDA-AMPPNP)	FP-FQ5700 20 µl	FP-FQ7270 10 µl	FP-FQ5710 20 µl	FP-FQ7280 10 µl	FP-FQ7290 10 µl	FP-FQ5720 20 µl	FP-FQ5730 30 µl
Aminoallyl-dUTP	FP-FQ5520 20 µl	FP-FQ5530 20 µl	FP-FQ5540 20 µl	FP-FQ5550 20 µl	FP-FQ5560 20 µl	FP-FQ5570 20 µl	FP-FQ5580 20 µl
5-Propargylamino-dCTP	FP-FQ5280 20 µl	FP-FQ5290 20 µl	FP-FQ5300 20 µl	FP-FQ5310 20 µl	FP-FQ5320 20 µl	FP-FQ5330 20 µl	FP-FQ5340 20 µl
<b>FluoProbes® Labels</b>	<b>610A</b>	<b>620A</b>	<b>635A</b>	<b>647A</b>	<b>655A</b>	<b>680A</b>	
<b>λ max absorption :</b>	<b>615</b>	<b>619</b>	<b>635</b>	<b>645</b>	<b>663</b>	<b>680</b>	
<b>λ max emission :</b>	<b>635</b>	<b>643</b>	<b>659</b>	<b>669</b>	<b>664</b>	<b>700</b>	
N6-(4-Amino)butyl-ATP	FP-FQ4990 30 µl	FP-FQ5820 20 µl	FP-FQ5830 20 µl	FP-FQ5840 20 µl	FP-FQ5850 20 µl	FP-FQ5860 20 µl	
N6-(6-Amino)hexyl-ATP	FP-FQ5070 30 µl	FP-FQ5870 20 µl	FP-FQ5880 20 µl	FP-FQ5890 20 µl	FP-FQ5900 20 µl	FP-FQ5910 20 µl	
8-[(4-Amino)butyl]-amino-ATP	FP-FQ4680 30 µl	FP-FQ5360 20 µl	FP-FQ5370 20 µl	FP-FQ5380 20 µl	FP-FQ5390 20 µl	FP-FQ5400 20 µl	
8-[(6-Amino)hexyl]-amino-ATP	FP-FQ4760 30 µl	FP-FQ5410 20 µl	FP-FQ5420 20 µl	FP-FQ5430 20 µl	FP-FQ5440 20 µl	FP-FQ5450 20 µl	
EDA-ADP	FP-FQ5680 20 µl	FP-FQ7220 10 µl	FP-FQ7230 10 µl	FP-FQ7240 10 µl	FP-FQ7250 10 µl	FP-FQ7260 10 µl	
EDA-ATP	FP-FQ5770 20 µl	FP-FQ7360 10 µl	FP-FQ7370 10 µl	FP-FQ7380 10 µl	FP-FQ7390 10 µl	FP-FQ7400 10 µl	
EDA-AppNHp(EDA-AMPPNP)	FP-FQ7300 10 µl	FP-FQ7310 10 µl	FP-FQ7320 10 µl	FP-FQ7330 10 µl	FP-FQ7340 10 µl	FP-FQ7350 10 µl	
Aminoallyl-dUTP	FP-FQ5590 20 µl	FP-FQ7160 10 µl	FP-FQ7170 10 µl	FP-FQ7180 10 µl	FP-FQ7190 10 µl	FP-FQ7200 10 µl	
5-Propargylamino-dCTP	FP-FQ5350 20 µl	FP-FQ7110 10 µl	FP-FQ7120 10 µl	FP-FQ7130 10 µl	FP-FQ7140 10 µl	FP-FQ7150 10 µl	