Label IT® LABELING TECHNOLOGY: THE SUPERIOR CHOICE

Understanding the *Label* IT® and Kreatech ULS™ Labeling Technologies

Both the *Label* IT and ULS Technologies chemically attach labels to the N^7 position of guanine bases in a variety of nucleic acids.

Why Choose the *Label* IT Technology?

Ease of Use

- The *Label* IT chemistry is compatible with common buffers and salts simplifying sample preparation.
- Labeling reactions can be scaled by volume or nucleic acid mass making the *Label* IT chemistry extremely flexible and adaptable.

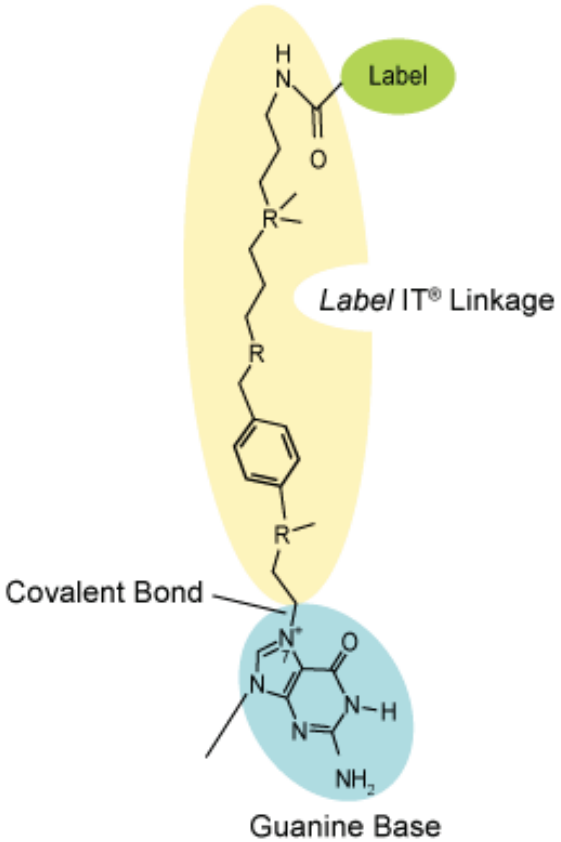
Versatility

- *Label* IT reactions can be performed on any size, single- or double-stranded nucleic acid substrate without denaturation making it compatible with a wide array of applications including intracellular tracking, ISH, FISH, blotting, microarrays, and subtractive hybridization for library construction.

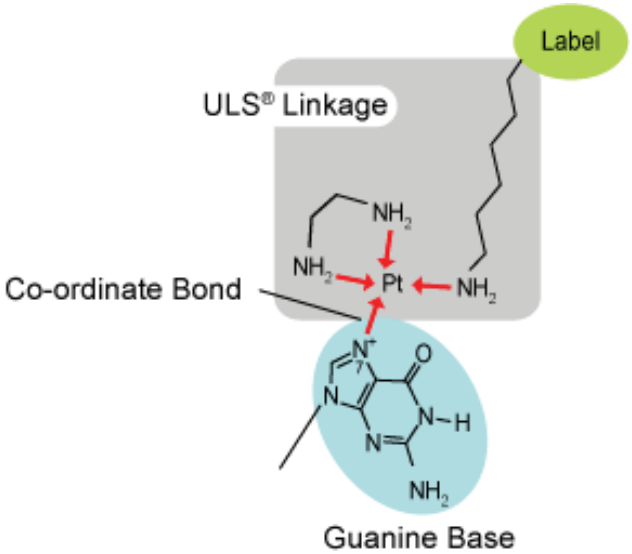
The Different Labeling Chemistries

Label IT Reagents use alkylation chemistry to attach labels predominantly to guanines through a covalent bond while ULS Technology uses platinum co-ordination chemistry.

***Label* IT Chemistry**



ULS Chemistry



Mirus
The Transfection Experts

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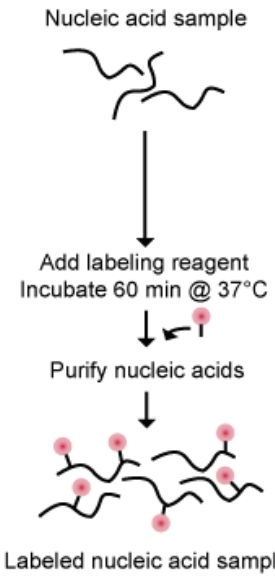
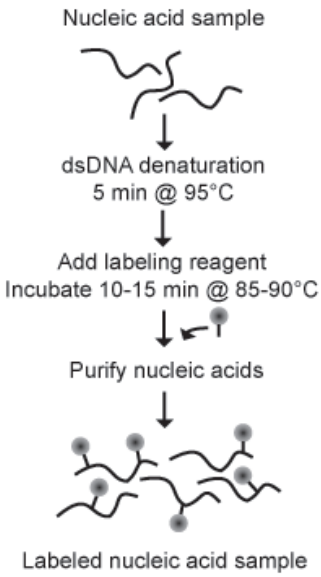
Detailed Reasons to Choose *Label* IT Technology

General *Label* IT Protocol



General ULS Protocol



Label IT Technology	ULS Technology
1-Buffer Compatibility	
Compatible with common buffers and ≤50 mM NaCl - samples prepared using standard purification methods and kits are ready for labeling using the *Label* IT Kits.	ULS labeling requires highly pure starting materials free of trace amounts of divalent cations, salts, buffers, and EDTA making it more difficult to prepare the samples.
2-Size Limitations	
No nucleic acid template size limitations - any length of nucleic acid from siRNAs to cosmids and BACs can be labeled using *Label* IT Reagents making it versatile and useful for a variety of applications.	ULS labeling of DNA molecules >1000 bp may cause aggregation limiting the utility of this labeling system to small molecules or fragments.
3-Denaturation Step	
Highly efficient labeling of native double- or single-stranded nucleic acids with no heat denaturation of dsDNA required – any type of nucleic acid can be labeled in its native form including dsDNA, ssDNA, dsRNA, ssRNA, and DNA and RNA oligonucleotides.	For efficient labeling of dsDNA with ULS chemistry, the DNA must be heat denatured before labeling thus adding another step to the ULS labeling protocol and disrupting the native conformation of dsDNA.
4-Nucleic Acid Concentration	
No restrictions on the nucleic acid concentration during labeling - the labeling reactions can be scaled by volume or total nucleic acid mass enabling simple, flexible labeling.	The concentration of nucleic acid in a ULS labeling reaction must be kept at 50 ng/µl and 20 µl total volume, which will likely dictate that the sample be diluted or concentrated before labeling and thus adding a step before beginning the labeling reaction.
5-Reaction Conditions	
Flexible labeling incubation times - the *Label* IT labeling reaction incubation time of 1 hour can be increased or decreased to simply and reproducibly control labeling density.	ULS labeling reactions require very specific labeling conditions (incubation times and temperatures) thus limiting the flexibility and adaptability of the labeling system.