PREPARATION AND FORMULATION

Labeled nucleotides are produced in a wide variety of specific activity, radiolabel and formulation to assure the achievement of appropriate sensitivity, resolution and convenience in assays. Nucleotides are produced by multi-stage enzymatic synthesis from carrier-free processed isotopes, followed by HPLC purification. ^{32}P, ^{33}P and ^{35}S-nucleotides are supplied as the triethylammonium salt.

^{35}S-amino acids are prepared by growing a microorganism in a medium in which the only available source of sulfur is radioactive. The ^{35}S is incorporated into the protein chain of the microorganism. After harvesting and hydrolysis, L-[^{35}S]methionine is purified by high performance liquid chromatography.

^{32}P, ^{33}P and ^{35}S Nucleotides

Majority of ^{32}P, ^{33}P and ^{35}S radionucleotides are supplied in aqueous solution at **10 mCi/ml** (370 MBq/ml). The conventionally formulated nucleotides are supplied in 10 mM Tricine buffer (pH 7.8) and 5 mM DTT (^{32}P and ^{33}P radionucleotides) or 10 mM DTT (^{35}S radionucleotides). The SteadyBlue™ and SteadyClear™ nucleotides are supplied in stabilized (and colored) aqueous solution. The stabilized forms have the same performance in any application as the conventionally formulated equivalents due to the unique composition, the inert blue dye and the low salt concentration. If the visualization is important use the SteadyBlue™ series. The conventionally formulated or the SteadyClear™ series is recommended if an inert dye can cause any trouble in your application.

^{35}S-Amino Acids

The in vitro translation grade **^{35}S-Methionine** is supplied at **10 mCi/ml** (370 MBq/ml), **15 mCi/ml** (555 MBq/ml) or **50 mCi/ml** (2000 MBq/ml) radioactive concentration in 10 mM Tricine buffer (pH 7.4) containing 10 mM 2-mercaptoethanol.

IsoLabel™ is a mixture of amino acids and contains approximately 70 % L-[35S]Methionine and 30 % L-[35S]Cysteine. The mix is for in vitro protein labeling and supplied in a sterile aqueous solution containing 10 mM Tricine buffer pH 7.4 and 10 mM 2-mercaptoethanol at **15 mCi/ml** (555 MBq/ml). Both ^{35}S-Methionine and IsoLabel™ are also available in SteadyBlue™ formulation, i.e. stabilized and colored form.

NucleoTip™ products

NucleoTip™ is a novel carrier and delivery system in a convenient solution-free format. NucleoTip™ product are identical with the formerly available Redivue Tip™ (GE Biosciences) used to be OEM products of IoI. NucleoTip™ is a pipette tip that contains reaction-sized amounts of radiolabeled nucleotides in a highly visible yet solution-free form. An anion exchange film, which coats the inner wall of the tip, reversibly immobilizes and protects the labeled nucleotides until ready for use. Reaction-sized aliquots of radionucleotide are pre-loaded into a pipette tip and reversibly immobilized on to the interior wall for elution directly into a reaction mixture. The risk of spillage is minimized and the highly visible dye aids handling. The performance of NucleoTip™ nucleotides is equivalent to SteadyBlue products and provides a good method for delivering a set amount of radioactivity to biological assays.