

Prepare Labeled RNA Probes More Efficiently and Economically Using the AmpliScribe™ T7 Aminoallyl-RNA Transcription Kit

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In vitro transcription incorporating biotin- or fluorescent-labeled NTPs is a relatively inefficient and very expensive way to prepare non-radioactively labeled RNA probes. The AmpliScribe™ T7 Aminoallyl-RNA Transcription Kit provides a reliable, high-yield, and cost-effective method for producing biotin-labeled or fluorescent-labeled RNA for *in situ* hybridization, microarray experiments, and other applications using non-radioactively-labeled RNA probes.

The kit uses EPICENTRE's AmpliScribe™ T7 high yield *in vitro* transcription technology to incorporate 5-[3-aminoallyl]-UTP (AA-UTP) into the RNA transcript. Since AA-UTP is incorporated into RNA with the same efficiency as UTP,¹ the kit produces high yields of aminoallyl-RNA, even from limiting amounts of DNA template (FIG 1). The resulting aminoallyl-RNA reacts

with amine-reactive *N*-hydroxysuccinimide (NHS) esters of either biotin (e.g., Biotin-X-X-NHS; see below) or fluorescent dyes to produce biotin-labeled or fluorescent-labeled RNA. The transcription reaction conditions have been optimized to consistently generate aminoallyl-RNA that, upon conjugation to Biotin-X-X-NHS or a fluorescent dye-NHS, yields high signal intensity. This method for preparing biotin- or fluorescent-labeled RNA is much more efficient and much less expensive than direct incorporation of a biotin-NTP or a fluorescent-NTP during the *in vitro* transcription reaction.

Applications

Production of non-radioactively labeled RNA probes for:

- *In situ* hybridization.
- Blotting experiments.
- DNA microarray studies.

Benefits

- The kit utilizes AmpliScribe high yield *in vitro* transcription technology to generate the highest possible yield of aminoallyl-RNA.
- High yields of aminoallyl-RNA, even from limiting amounts of DNA template (FIG 1).
- Reactions are optimized to yield high signal intensity after biotin or fluorescent dye conjugation.
- More efficient and cost effective method for producing non-radioactively labeled RNA probes.

Reference

1. Fenn, B.J. and Herman, T.M. (1990) *Anal. Biochem.* **190**(1), 78.

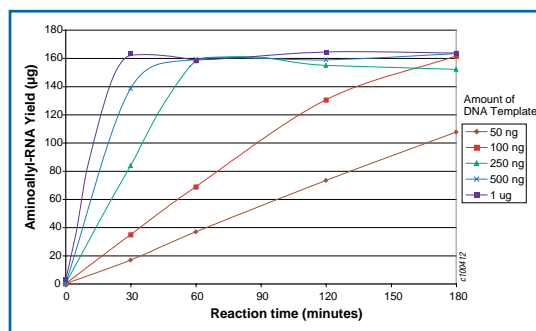


FIG 1. High yields of aminoallyl-RNA are produced, even from limiting amounts of DNA template, using the AmpliScribe™ T7 Aminoallyl-RNA Transcription Kit.

www.EpiBio.com/ampliscribe_aa-RNA.asp

AmpliScribe™ T7 Aminoallyl-RNA Transcription Kit

AA50125 25 Reactions
 Contents: AmpliScribe™ T7-Flash™ Enzyme Solution (with added RNase Inhibitor), AmpliScribe™ T7-Flash™ 10X Reaction Buffer, ATP, CTP, GTP, UTP, and Aminoallyl-UTP Solutions, RNase-Free Water, RNase-Free DNase I, DTT, and Control Template.

www.EpiBio.com/utp.asp

Aminoallyl-UTP

AAU5202 2.5 µmoles @ 50 mM

Also Available: Biotin-X-X-NHS

Biotin-X-X-NHS

Easy and Efficient Labeling, Convenient Packaging

Biotin-X-X-NHS enables the easy and efficient labeling of aminoallyl-RNA, or aminoallyl-aRNA (also called cRNA), both of which may be produced by RNA amplification procedures such as EPICENTRE's TargetAmp™ 1-Round & TargetAmp™ 2-Round Aminoallyl-aRNA Amplification Kits. Aminoallyl-cDNA can also be readily labeled with Biotin-X-X-NHS.

Biotin-X-X-NHS from EPICENTRE:

- Provided as a dry powder packaged in small aliquots (2.5 mg) in septum-sealed vials, for maximum stability in storage and handling and to minimize waste.

- Has a long spacer arm to maximize binding to avidin or streptavidin conjugates by minimizing steric hindrance between multiple biotinylated sites.
- Includes a protocol for labeling aminoallyl-RNA.

Biotin-X-X-NHS - Order online at www.EpiBio.com/biotin.asp

BXX51005
 BXX51010

5 vials, 2.5 mg/vial
 10 vials, 2.5 mg/vial