

# Get Consistently High Yields of Full-Length RNA From Both Long and Short DNA Templates Using AmpliScribe™ T7 High Yield Transcription Kits

Getting consistent *in vitro* transcription of full-length RNA transcripts from a variety of DNA templates is critical to the success of many gene expression experiments. For this reason, EPICENTRE's AmpliScribe™ High Yield Transcription Kits have become the preferred *in vitro* transcription kits for many labs. Recently, a competitor reported their "inability" to produce full-length transcripts >1 Kb using EPICENTRE's AmpliScribe T7 High Yield Transcription Kits. We find this result quite remarkable since a number of researchers have reported to us that, in side-by-side comparisons, AmpliScribe Kits have consistently produced better results with their templates than kits from competitors.

Here, as reported previously (see *EPICENTRE Forum* 7:2) we demonstrate the yield and integrity of RNA produced using the AmpliScribe T7 High Yield Transcription Kits. In this study, we report the results of transcribing ten different DNA templates, producing transcripts ranging in size from 46 bases to 8 Kb using AmpliScribe T7 High Yield Transcription Kits.

## High yields of full-length, long RNA transcripts from an AmpliScribe™ T7 High Yield Transcription reaction

Five linearized DNA templates, producing RNA transcripts of 2.8 Kb, 3.8 Kb, 4.8 Kb, 7.3 Kb, and 8.0 Kb, were individually transcribed in standard 20 µl AmpliScribe T7 High Yield Transcription



**Figure 1. An AmpliScribe™ T7 High Yield Transcription reaction produces full-length, long RNA transcripts.** Aliquots from standard 20 µl AmpliScribe T7 High Yield Transcription reactions were loaded onto a 1% agarose-formaldehyde gel and stained with ethidium bromide. The size of the RNA transcripts and RNA yields (in parentheses) were: Lane 1, 2.8 Kb (155 µg); Lane 2, 3.8 Kb (160 µg); Lane 3, 4.8 Kb (154 µg); Lane 4, 7.3 Kb (156 µg); Lane 5, 8.0 Kb (156 µg).

reactions for 2 hours at 37°C. As shown in Figure 1, each reaction produced a full-length RNA transcript. RNA yields ranged from 154 µg to 160 µg of RNA.

**"The main thing I like about the AmpliScribe Kits is their consistently higher yields and lower price than the competition."**

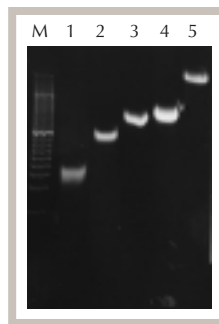
– Dr. JLE Dean, Imperial College School of Medicine, London

**"I just finished a side-by-side comparison of the AmpliScribe Kit to the (competitor's kit). I wanted to let you know that the AmpliScribe Kit by far and away blows (the competitor's kit) away. In terms of both quality and yield"**

– Aaron Nagel, Genome Solutions

## High yields of full-length, short RNA transcripts from an AmpliScribe™ T7 High Yield Transcription reaction

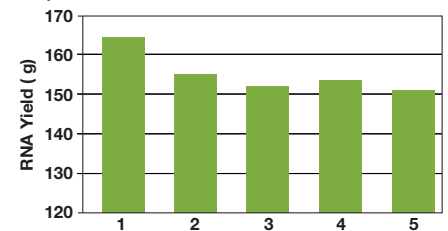
Five linearized DNA templates, producing RNA transcripts of 46 bases, 69 bases, 88 bases, 95 bases, and 242 bases, were individually transcribed in standard 20 µl AmpliScribe T7 High Yield Transcription reactions for 2 hours at 37°C. Figure 2 shows that each reaction produced the expected full-length transcript. RNA yield ranged from 41 to 78 µg of RNA.



**Figure 2. An AmpliScribe™ T7 High Yield Transcription reaction produces full-length, short RNA transcripts.** Aliquots from standard 20 µl AmpliScribe T7 High Yield Transcription reactions were loaded onto a 12% polyacrylamide gel and stained with ethidium bromide. The size of the RNA transcripts and RNA yields (in parentheses) were: Lane 1, 46 bases (41 µg); Lane 2, 69 bases (55 µg); Lane 3, 88 bases (61 µg); Lane 4, 95 bases (65 µg); Lane 5, 242 bases (78 µg).

## AmpliScribe™ T7 High Yield Transcription reactions consistently produce high yields of RNA transcripts

Each new batch of AmpliScribe T7 High Yield Transcription Kits must meet stringent quality testing parameters for RNA yield prior to release for sales. The RNA yield from five recent batches of the AmpliScribe T7 High Yield Transcription Kits is shown in Figure 3. Each lot of kits produced >150 µg of a 1.4 Kb RNA transcript.



**Figure 3. AmpliScribe™ T7 High Yield Transcription Kits consistently produce high yields of RNA.**

AmpliScribe T7 transcription reactions from five recent lots of kits each generated >150 µg RNA as determined by EPICENTRE's Quality Control Lab using 1 µg of linearized control DNA template, producing a 1.4-Kb RNA transcript, in a 2 hour reaction.

## AmpliScribe™ High Yield Transcription Kits are the best value for *in vitro* transcription

EPICENTRE's competitively-priced AmpliScribe High Yield Transcription Kits consistently produce high yields of RNA transcripts from both long and short DNA templates.

[www.epicentre.com/ampliscribe.asp](http://www.epicentre.com/ampliscribe.asp)

### AmpliScribe™ High Yield Transcription Kits

T7	
AS2607	25 Reactions
AS3107	50 Reactions
SP6	
AS2606	25 Reactions
AS3106	50 Reactions
T3	
AS2603	25 Reactions
AS3103	50 Reactions

### Contents:

AmpliScribe™ T7, SP6 or T3 Enzyme Mix (with added RNase inhibitor), 100 mM ATP, CTP, GTP and UTP Solutions, AmpliScribe™ 10X Reaction Buffer, RNase-free DNase I, RNase-free Water, DTT, and Linearized Control DNA Template.