

# Building the Results

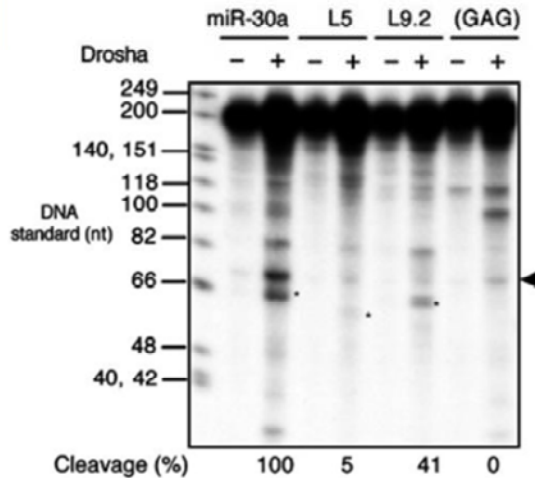
20.109  
Spring 2012



Photo credit: Theresa Walunas, <http://www.keyboardbiologist.net/knitblog/>

Based on this figure, what is expected in an illustration?

2

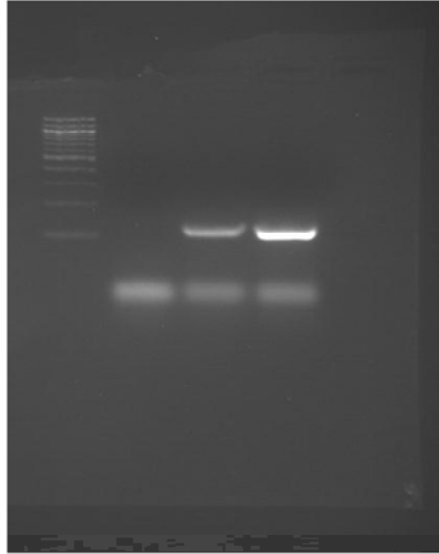


**Figure 5. *In vitro* Drosha cleavage of pri-miR-30a transcripts. FLAG immunoprecipitates from mock-transfected 293T cells (-) or cells transfected with pCK-Drosha-FLAG(+) were incubated with a <sup>32</sup>P-labeled ~202 nt RNA probe encoding the indicated miR-30a variants. RNA cleavage products were recovered and resolved on a denaturing 10% polyacrylamide gel. The pre-miRNA band is indicated by an asterisk, and the background band running slightly above by an arrowhead.**

Zeng et al. (2005) EMBO J. 24: 138.

## How could we improve this 20.109 figure?

3



**Figure 1.**

Amplification/purification of aptamer-encoding DNA. Aptamer-encoding fragments 6-5 and 8-12 were PCR amplified, and electrophoresed on a 3% agarose gel. Expected product size is 129 bp. Samples are 100-bp DNA ladder (lane 1); control without DNA (lane 2); 6-5 (lane 3); and 8-12 (lane 4).

This slide shows the revision of the legend only. Below is the original.

**Figure 1** shows the DNA ladder, control, 6-5, and 8-12.

The legend needs the following elements: (1) figure title and number; (2) description of methods and samples; and (3) NO description of data or interpretation.

The image of the gel should be cropped to remove edges and empty lanes. In addition, you should label the lanes and a few MW marker bands (e.g., the bands are bigger and smaller than the bands of interest, plus one of the higher MW bands).

## Based on this paragraph, what is expected in the Results?

4

To determine whether the RAG proteins could carry out intermolecular transposition, we performed reactions with a 1.4-kilobase (kb) SE/SE substrate containing a tetracycline-resistance gene and a 6.3-kb circular target plasmid containing an ampicillin-resistance gene (Fig. 6a). Transposition should result in a 7.7-kb relaxed circle carrying both antibiotic-resistance genes (Fig. 5a). Direct analysis of the reaction products by Southern blotting showed that substrate sequences were transferred into a product that migrated at the position expected for the relaxed circle (Fig. 6b, lane 5). Formation of this product required the target plasmid and the RAG and HMG2 proteins (Fig. 6b, lanes 2–4).

Agrawal *et al.* *Nature* 394, 744 (1988).

Rationale

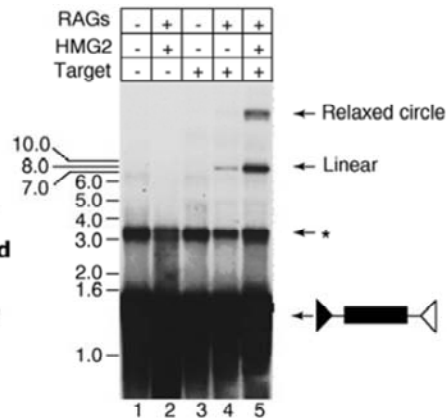
Data description

This paragraph lacks a conclusion sentence, i.e. the answer to the question posed (rationale). Providing a conclusion sentence ties together your observations, and helps smooth the transition to the next experiment.

# Describe illustrations so that the reader not look at them.

5

To determine whether the RAG proteins could carry out intermolecular transposition, we performed reactions with a 1.4-kilobase (kb) SE/SE substrate containing a tetracycline-resistance gene and a 6.3-kb circular target plasmid containing an ampicillin-resistance gene (Fig. 6a). Transposition should result in a 7.7-kb relaxed circle carrying both antibiotic-resistance genes (Fig. 5a). Direct analysis of the reaction products by Southern blotting showed that substrate sequences were transferred into a product that migrated at the position expected for the relaxed circle (Fig. 6b, lane 5). Formation of this product required the target plasmid and the RAG and HMG2 proteins (Fig. 6b, lanes 2-4).



Agrawal *et al.* *Nature* 394, 744 (1988).

# Now, it's your turn.

6

## Results

**Preparation of DNA.** We performed PCR to amplify the aptamer-encoding fragments 6-5 and 8-12. To determine whether the DNA was amplified, we performed electrophoresis (Fig.1). The 6-5 and 8-12 samples generated bands between 100-200 bp, which is consistent with our expected band size of 129 bp. The reaction depended on the presence of template. Also present in all lanes were smaller bands, most likely primers. Taken together, the gel shows that DNA was amplified.

This slide shows the revision. Below is the original.

## Results

We performed PCR to amplify the aptamer encoding fragments 6-5 and 8-12. The figure above shows that the DNA was amplified.