

Figures and Figure Captions



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Tables and Figures are NOT for Decoration

Table 2. Effect of temperature on growth of oak (*Quercus*) seedlings^a

Temp (°C)	Growth in 48 h (mm)
-50	0
-40	0
-30	0
-20	0
-10	0
0	0
10	0
20	7
30	8
40	1
50	0
60	0
70	0
80	0
90	0
100	0

^aEach individual seedling was maintained in an individual round pot, 10 cm in diameter and 100 m high, in a rich growth medium containing 50% Michigan peat and 50% dried horse manure. Actually, it wasn't "50% Michigan"; the peat was 100% "Michigan," all of it coming from that state. And the manure wasn't half-dried (50%); it was all dried. And, come to think about it, I should have said "50% dried manure (horse)"; I didn't dry the horse at all.

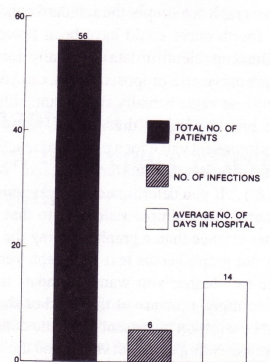


Figure 1. Incidence of hospital-acquired infections.
 (Courtesy of Erwin F. Lessel.)

When a table or column can readily be put into words, do it.
 - R.A. Day

What is the Best Way to Display These Data?

Table 9. Effect of streptomycin, isoniazid, and streptomycin plus isoniazid on *Mycobacterium tuberculosis**

Treatment ^b	Percentage of negative cultures at:			
	2 wk	4 wk	6 wk	8 wk
Streptomycin	5	10	15	20
Isoniazid	8	12	15	15
Streptomycin + isoniazid	30	60	80	100

*The patient population, now somewhat less so, was described in a preceding paper (61).
^bHighest quality available from our supplier (Town Pharmacy, Podunk, IA).

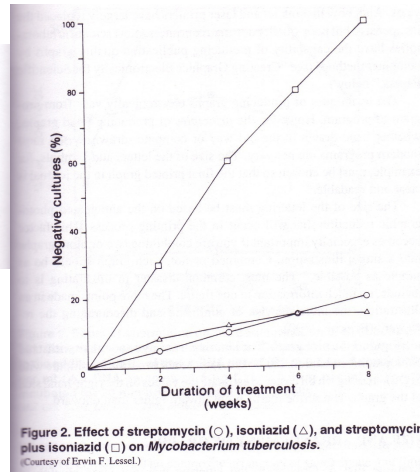
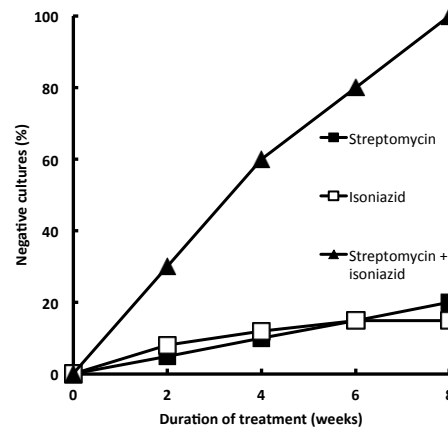
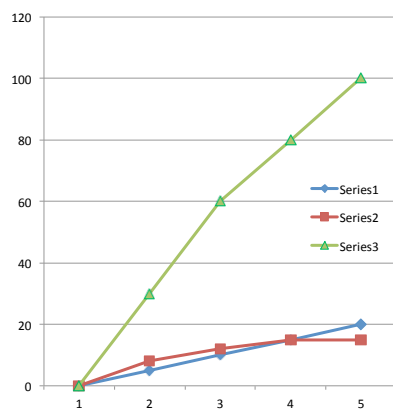


Figure 2. Effect of streptomycin (○), isoniazid (△), and streptomycin plus isoniazid (□) on *Mycobacterium tuberculosis*.
 (Courtesy of Erwin F. Lenzel.)

Make Labels on Graphs Meaningful



What are Some Important Features of This Figure?

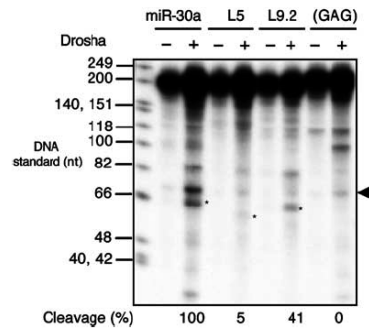


Figure 5 *In vitro* Droscha cleavage of pri-miR-30a transcripts. FLAG immunoprecipitates from mock-transfected 293T cells (-) or cells transfected with pCK-Droscha-FLAG(+) were incubated with a ³²P-labeled ~202 nt RNA probe encoding the indicated miR-30a variants. RNA cleavage products were recovered 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. Cleavage efficiency was calculated as the intensity of the pre-miRNA band divided by that of the remaining substrate, and set as 100% for the wild-type transcript. DNA size standards are shown next to the autoradiograph.
Zeng et al. (2005) EMBO J. 24: 138.

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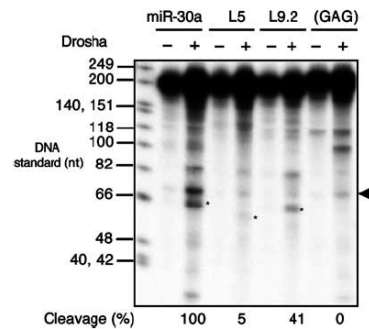


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- Lanes are labeled
- Ladder is labeled
- Gel is cropped & well positioned

What's a good Figure Title?

Complete sentence or not?

What information goes in a title?

A Good Title

- Title should be a **LABEL** – not a sentence describing the figure – no active verbs
- Should include something about the method used to obtain the image (e.g., **agarose gel**) and the focal point of the result (e.g., **aptamer**)

What's a good Figure Title?

1. Confirmation of DNA encoding the selected aptamers "6-5" and "8-12"
2. Agarose Gel electrophoresis of aptamer-encoding DNA
3. Gel electrophoresis shows purified aptamer products of "6-5" and "8-12" libraries
4. Gel electrophoresis isolation of amplified 6-5 and 8-12 DNA segments
5. Segments 6-5 and 8-12 are isolated
6. DNA gel showing aptamers after PCR amplification
7. A 3% agarose gel showing PCR products for four labeled columns from left to right of the DNA ladder and the WYBR stained DNA samples5.5

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What Goes in the Caption?

Captions Identify the Figure and Allows it to “Stand Alone”

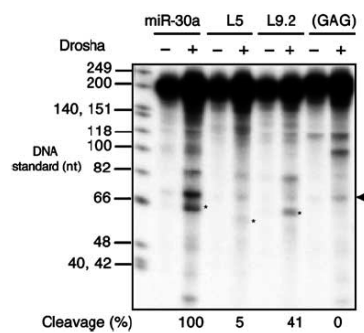


Figure 5 *In vitro* Drosha cleavage of pri-miR-30a transcripts. FLAG immunoprecipitates from mock-transfected 293T cells (-) or cells transfected with pCK-Drosha-FLAG(+) were incubated with a 32 P-labeled ~202 nt RNA probe encoding the indicated miR-30a variants. RNA cleavage products were recovered 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. Cleavage efficiency was calculated as the intensity of the pre-miRNA band divided by that of the remaining substrate, and set as 100% for the wild-type transcript. DNA size standards are shown next to the autoradiograph.

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

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Number &
Title

Method &
Symbols

NO data
description or
interpretation

Complete
sentences

So - What Goes in the Caption?

Figure number (even if you only have Figure 1.)

Figure Title (Label – not sentence)


Description of the gel – lane by lane in complete sentences

Define symbols (e.g., *)

What's Missing Here?
What Could be Eliminated?



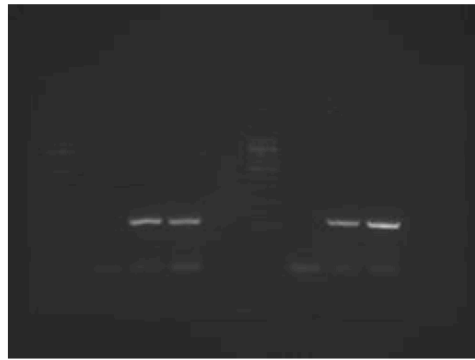
What's Missing Here?
What Could be Eliminated?

Remove
Duplicate
Gel

Label lanes
and ladder
In remaining
gel



What goes in the caption?

What Goes in the Caption?



Use complete sentences

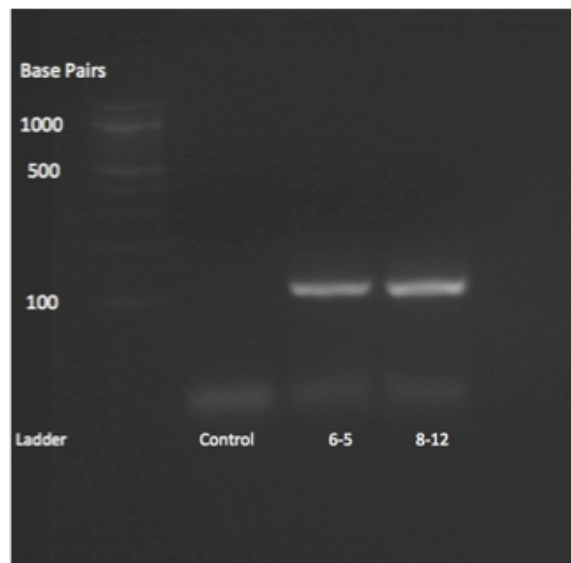
Be aware of appropriate word choice.

Appropriate labels make much of this text unnecessary and could add specificity

Avoid interpretation



Figure 1. Gel electrophoresis of aptamer-encoding DNA. Gel containing two sets of PCRRed DNA. DNA on left is **desired** set. Vertical band **on far left** is DNA ladder. **The two bright horizontal bands** are 6-5 and 8-12. The fainter three bands beneath are left over primers from PCR.

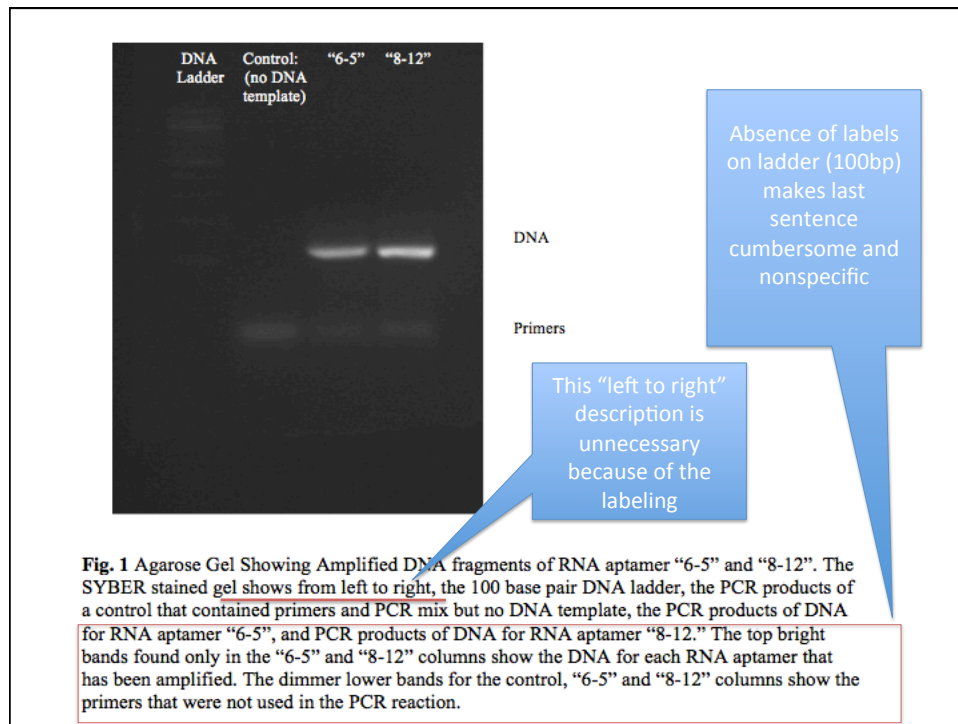


The presence of labels makes the content of the caption more informative. The author can refer to the "control" and the "6-5 and 8-12 bands"

Could these sentences be combined?

Should you interpret the dim bands?

Figure 2 Segments 6-5 and 8-12 are isolated. The control exhibits no DNA segments. The primers are visible in the only visible band. The bright 6-5 band consists of DNA segments of approximately 100 base pairs, the faint lower band consists of primers. The bright 8-12 band consists of DNA segments of approximately 100 base pairs, the faint lower band consists of primers.



In the Results Section Avoid "Roadmap" Figure References



"The results of the gel are shown in Figure 1."

This sentence HAS NO CONTENT

"The gel in Figure 1 shows that"

Make some observation or claim about your data –
announcing it's location wastes time & space

Is This Enough Description of the Data for the Results Section?

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

What's missing?

What would you change?

6-5 and 8-12 DNA segments were amplified using gel electrophoresis. Both the 6-5 segments and the 8-12 segment are approximately 100 base pairs. The absence of a 100 base pair band in the control proves that the bright bands visible in figure 1 are concentrated bands of DNA. The intensity of the bands indicates that a significant concentration of DNA segments was achieved.

What would you change?

DNA segments 6-5 and 8-12 were amplified **with** gel electrophoresis (**Figure 1**). Both segments are approximately 100 base pairs. The absence of a 100 base pair band in the control **confirms** that the bright bands are concentrated bands of DNA. The intensity of the bands indicates that a **substantial** concentration of DNA segments was achieved.

I'll be looking at your
Figures and Captions (Due Next Week)
and will respond on the Homework page

Good luck



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68-120

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