

# Human ZNF292 Circular RNA Structure and Expression in Colorectal Cancer Cell Lines

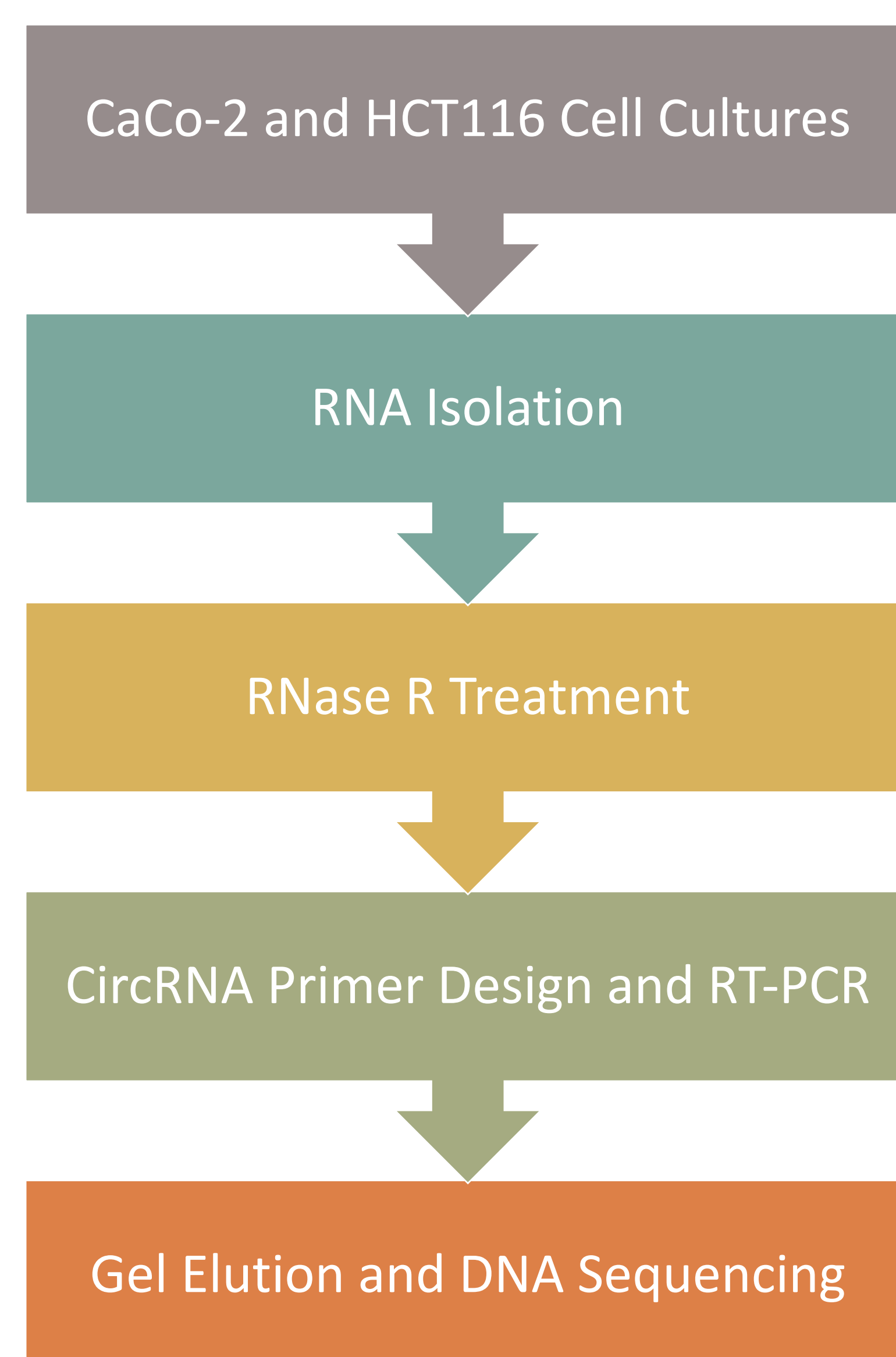
## PRESENTERS

Alexa Bancroft (bancroft@etsu.edu)  
David L. Hurley, Ph.D. (hurleyd@etsu.edu)

## BACKGROUND

Variants in ZNF292 have been shown to be responsible for neurodevelopmental disorders resulting in autism spectrum disorders.<sup>1</sup> ZNF292 in humans has been shown to produce an abundance of circular RNA (circRNA) in endothelial and cancer cells that is regulated by environmental conditions.<sup>2</sup>

## METHODS



## RESULTS

We identified that human ZNF292 from CaCo-2 colorectal cancer cell lines does produce circular RNA as well as linear mRNA.

The linear forms are removed by RNase R treatment, as predicted, while the circular forms remain, even with different primer sets.

Product bands from the gel elution are being sequenced to determine which exons are present and in which form.

# Human ZNF292 gene regulating growth hormone expression and tumor suppression produces circular RNA: *what are the implications?*

hZNF292	start	stop	size (nt)
Exon 1	1	195	194
Exon 1A	196	342	146
Exon 2	343	497	154
Exon 3	739	817	78
Exon 4	818	953	135
Exon 5	954	1156	202
Exon 6	1157	1293	136
Exon 7	1294	1435	141

## Primers used

human linear ZNF292		reference
ZLH292-F1	GCAAAGCTGTGTTCTGACCA	Boeckel et al, Circulation Research 2015
ZLH292-R1	CTTGTGGAGCTGACGTGAC	
human circ ZNF292		
ZCH292-F1	GCTCAAGAGACTGGGGTGTG	Boeckel et al, Circulation Research 2015
ZCH292-R1	AGTGTGTGTTCTGGGGCAAG	
ZCH292-F2	GATGGAGAATGGCAGCTGTG	Wei et al., AmJTR 2019; hsa_circ_403658
ZCH292-R2	AGCCACTGTGTATACCTCA	
ZCH292-F3	ACTGTGTCTGCCTGTGAGT	Bancroft et al., this paper
ZCH292-R3	GCGTCCAGAACCAAGGCTA	
ZCH292-F4	TCAAGAGACTGGGGTGTGGA	Bancroft et al., this paper
ZCH292-R4	ACTCAACAGGCAGACACAGT	

## AUTHORS (continued)

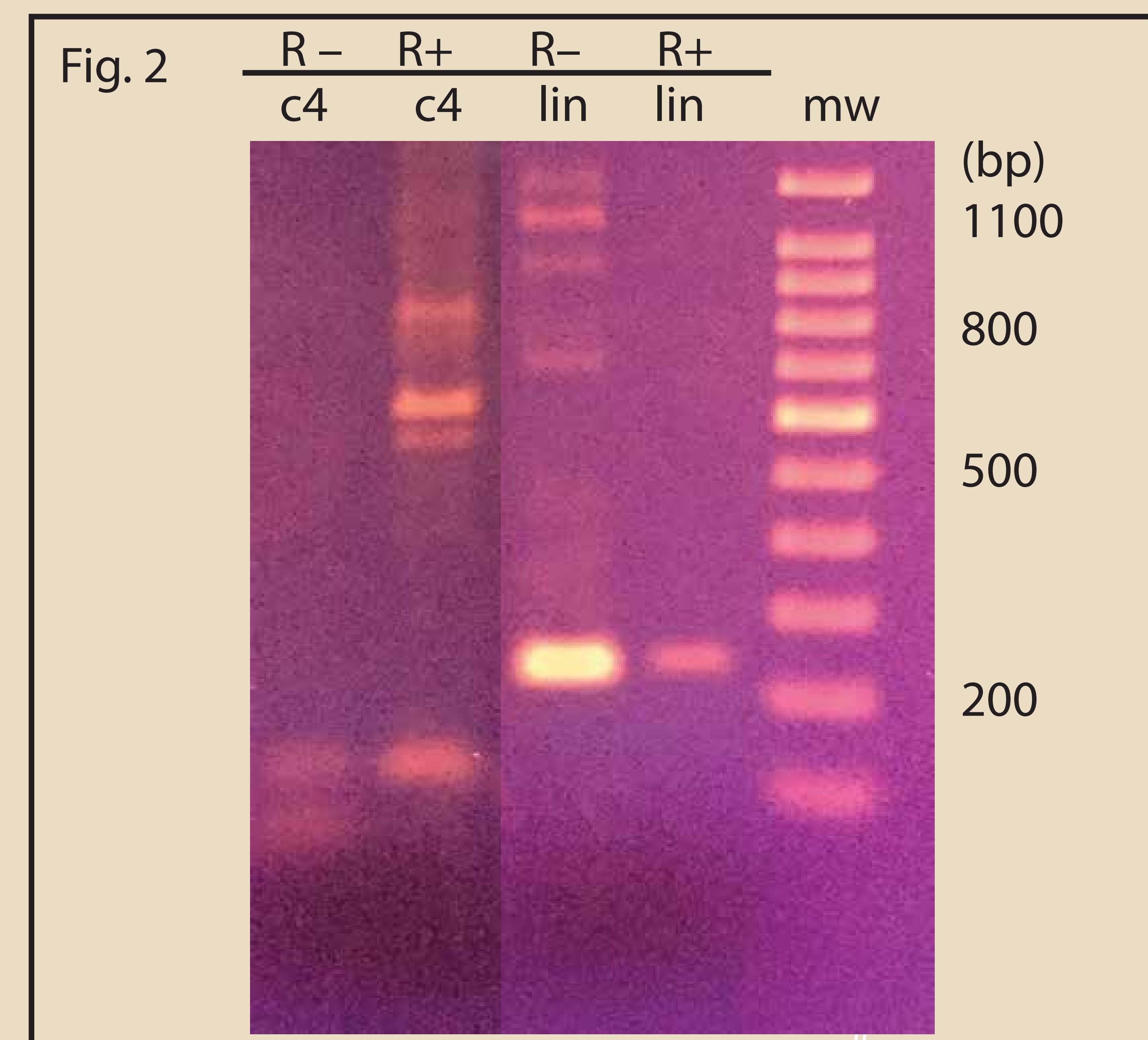
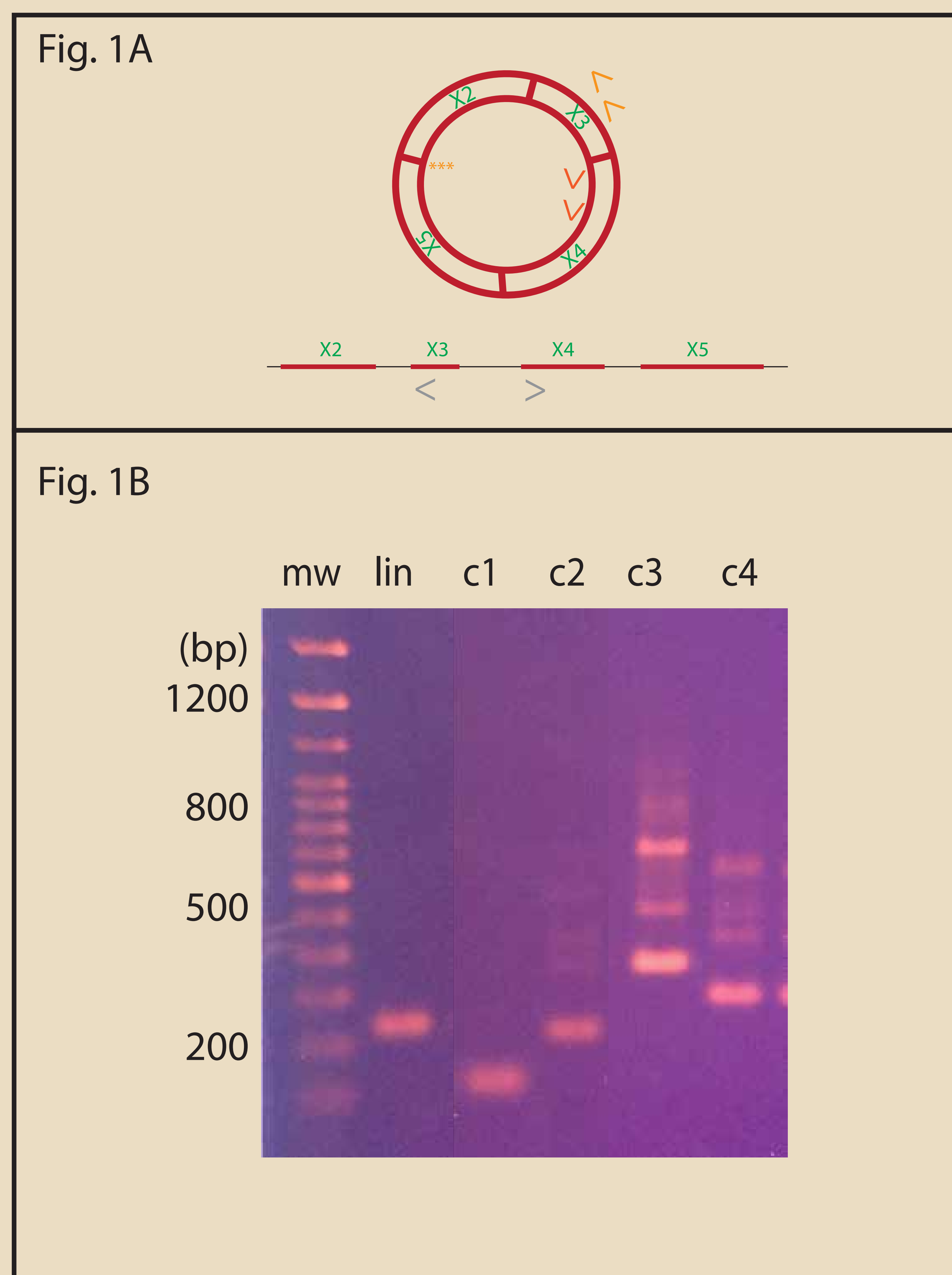
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## Acknowledgment

Student support for this project was provided by the Bill Gatton College of Pharmacy Concentration in Pharmacy Research (CPRx) program. This work was part of the completion by all of the listed students of the CPRx program and they all received the "Award for Excellence in Pharmacy Research". We thank Dean Debbie C. Byrd of the college for her support of the program.



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