

## **Supplemental Tables**

### **High-throughput imaging assay for drug screening of 3D prostate cancer organoids**

#### **Correspondence:**

Dr Mitchell G Lawrence  
Monash Biomedicine Discovery Institute Cancer Program, Department of Anatomy and  
Developmental Biology  
Monash University, Level 3, Building 76, 19 Innovation Walk, Clayton, VIC, 3800, Australia  
Phone: +61 3 9902 9286  
Email: mitchell.lawrence@monash.edu

A/Prof Kaylene Simpson  
Victorian Centre for Functional Genomics, Peter MacCallum Cancer Centre  
Level 11, Cluster 6, Victorian Comprehensive Cancer Centre, 305 Grattan St  
Melbourne, VIC, 3000, Australia  
Phone: +61 3 85597509  
Email: kaylene.simpson@petermac.org

**Supplementary Table 1:** Statistical analysis of organoid radius, area, and brightfield texture between the first and final day of the assay

Measurements	Matrigel concentration	Models				
		201.1A-Cx	201.2A-Cx	224R-Cx	287R	305R-Cx
Organoid radius	35%	****	****	****	****	****
	50%	****	****	****	****	****
	80%	****	****	****	****	****
Organoid area	35%	****	****	****	****	****
	50%	****	****	****	****	****
	80%	****	****	****	****	****
Brightfield texture	35%	****	<i>ns</i>	****	****	****
	50%	****	****	****	****	****
	80%	****	****	****	****	****

Data relates to Figure 2E-G, I-K, Supplementary Figure 2D-F, H-J, L-N

Two-way ANOVA with Dunnett's post hoc test; \*\*\*\* $P < 0.0001$

*ns* = not significant

**Supplementary Table 2:** Statistical analysis of organoid radius, area, and brightfield texture between Matrigel concentrations

Measurements	Comparison of Matrigel concentrations	Models				
		201.1A-Cx	201.2A-Cx	224R-Cx	287R	305R-Cx
Organoid radius	35% vs. 50%	****	<i>ns</i>	****	*	****
	35% vs. 80%	****	<i>ns</i>	****	****	****
	50% vs. 80%	****	*	****	**	**
Organoid area	35% vs. 50%	****	<i>ns</i>	****	<i>ns</i>	****
	35% vs. 80%	****	<i>ns</i>	****	****	****
	50% vs. 80%	****	**	****	<i>ns</i>	****
Brightfield texture	35% vs. 50%	<i>ns</i>	***	<i>ns</i>	*	****
	35% vs. 80%	<i>ns</i>	****	<i>ns</i>	<i>ns</i>	****
	50% vs. 80%	**	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

Data relates to Figure 2E-G, I-K, Supplementary Figure 2D-F, H-J, L-N

Two-way ANOVA with Tukey's post hoc test; \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$

*ns* = not significant

**Supplementary Table 3:** Statistical analysis of organoid readouts at all talazoparib doses relative to DMSO controls

Readout	Talazoparib dose (nM)	Models				
		201.1A-Cx	201.2A-Cx	224R-Cx	287R	305R-Cx
CTG	10	<i>ns</i>	<i>ns</i>	*	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	100	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	500	*	<i>ns</i>	***	<i>ns</i>	**
Radius	10	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
	100	<i>ns</i>	<i>ns</i>	***	<i>ns</i>	<i>ns</i>
	500	<i>ns</i>	<i>ns</i>	***	<i>ns</i>	<i>ns</i>
Area	10	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
	100	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	500	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
Hoechst intensity	10	*	<i>ns</i>	*	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	*	<i>ns</i>	<i>ns</i>
	100	*	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	500	***	<i>ns</i>	**	<i>ns</i>	*
Hoechst texture	10	*	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	100	*	<i>ns</i>	***	**	<i>ns</i>
	500	***	<i>ns</i>	***	*	*
Hoechst texture variance	10	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	50	<i>ns</i>	<i>ns</i>	**	<i>ns</i>	<i>ns</i>
	100	<i>ns</i>	<i>ns</i>	***	***	<i>ns</i>
	500	*	<i>ns</i>	***	**	*

Data relates to Figure 3D-H

Two-way mixed ANOVA with Dunnett's post hoc test; \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$

*ns* = not significant