

1 **S1. The distribution of HRD mutations for each cancer type**

	Colo-rectal cancer (n=151)	Gastric cancer (n=116)	Sarcoma (n=60)	Biliary tract cancer (n=48)	Pancreatic cancer (n=42)	Genitourinary cancer (n=25)	Other GI cancer (n=22)	Melanoma (n=23)	HCC (n=10)	Rare cancer (n=4)	Total
<b>ARID1A</b>	24	19	6	9	7	4	4	2	2	0	77
<b>ATM</b>	25	13	4	6	9	4	3	4	2	1	71
<b>ATRX</b>	9	3	5	2	4	2	0	1	0	1	27
<b>BAP1</b>	0	0	0	0	0	0	0	1	0	0	1
<b>BARD1</b>	24	11	11	4	6	5	1	3	1	1	67
<b>BLM</b>	16	6	5	3	6	3	4	0	0	0	43
<b>BRCA1</b>	11	5	3	5	3	5	2	3	0	1	38
<b>BRCA2</b>	26	20	9	14	9	7	3	1	1	0	90
<b>BRIP1</b>	5	4	4	2	2	2	2	1	0	0	22
<b>CHEK1</b>	3	1	0	2	0	0	0	0	0	0	6
<b>CHEK2</b>	6	6	0	1	1	2	0	1	1	0	18
<b>FANCA</b>	4	5	1	1	0	0	0	0	0	0	11
<b>FANCC</b>	7	3	0	2	0	0	2	0	1	0	15
<b>FANCD2</b>	26	8	6	3	2	4	1	0	3	0	53
<b>FANCE</b>	3	2	0	0	0	1	0	1	0	0	7
<b>FANCF</b>	2	0	1	1	0	0	0	0	1	0	5
<b>FANCG</b>	0	2	0	0	0	0	0	0	0	0	2
<b>FANCL</b>	2	2	1	1	0	0	1	0	0	0	7
<b>MRE11A</b>	0	0	0	0	0	0	0	0	0	0	0
<b>NBN</b>	11	14	5	4	1	3	0	0	1	1	40
<b>PALB2</b>	13	9	3	3	1	2	3	0	2	0	46
<b>PTEN</b>	8	3	1	2	0	2	0	0	0	0	16
<b>RAD50</b>	12	4	1	2	1	2	0	1	0	0	23
<b>RAD51</b>	6	2	1	2	1	0	0	0	1	0	13
<b>RAD51B</b>	3	0	2	1	0	0	1	0	0	0	7

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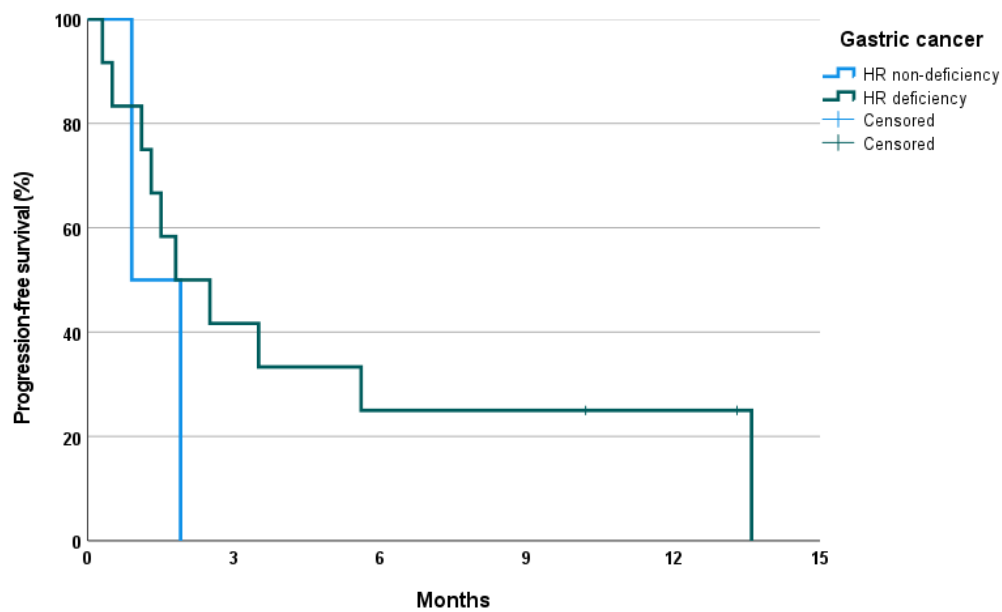
3 **S2-A** HRD and progression status for each cancer type

Tumor type	Total (N = 65)	Progression (n )	HRD mutation	HRD mutation with progression
Colorectal cancer	4	2	4	2
Gastric cancer	14	12	12	10
Sarcoma	3	2	2	2
Biliary tract	5	4	5	4
Pancreatic	1	1	1	1
Genitourinary	12	8	12	8
Other GI cancer	1	1	1	1
Melanoma	20	14	11	8
Hepatocellular carcinoma	4	3	4	3
Rare cancer	1	1	1	1

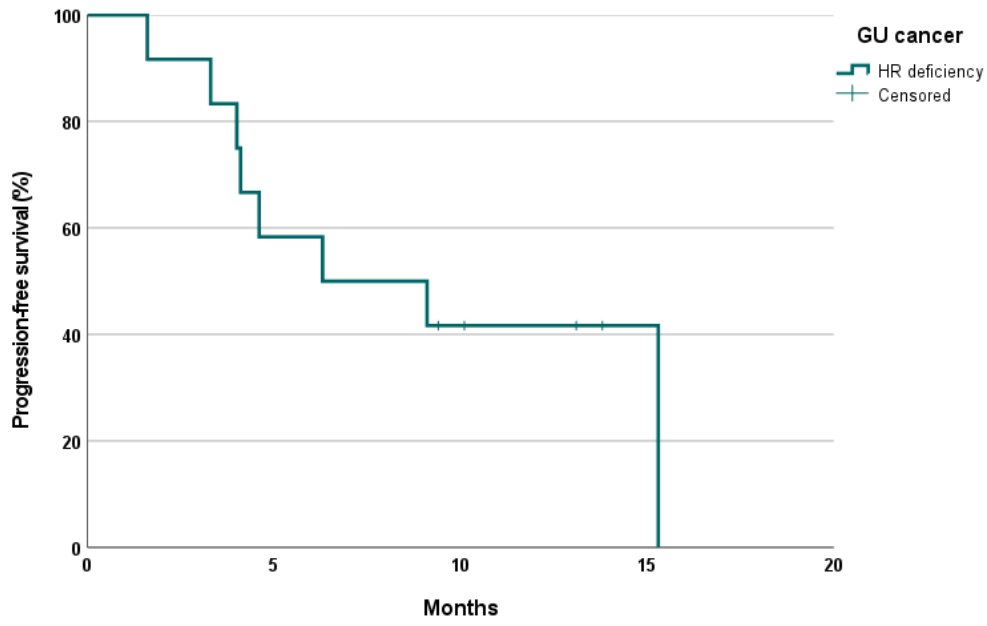
4 GI gastrointestinal, HRD Homologous recombination deficiency

5 **S2-B** Kaplan-Meier curves for progression-free survival of each cancer type according to HRD

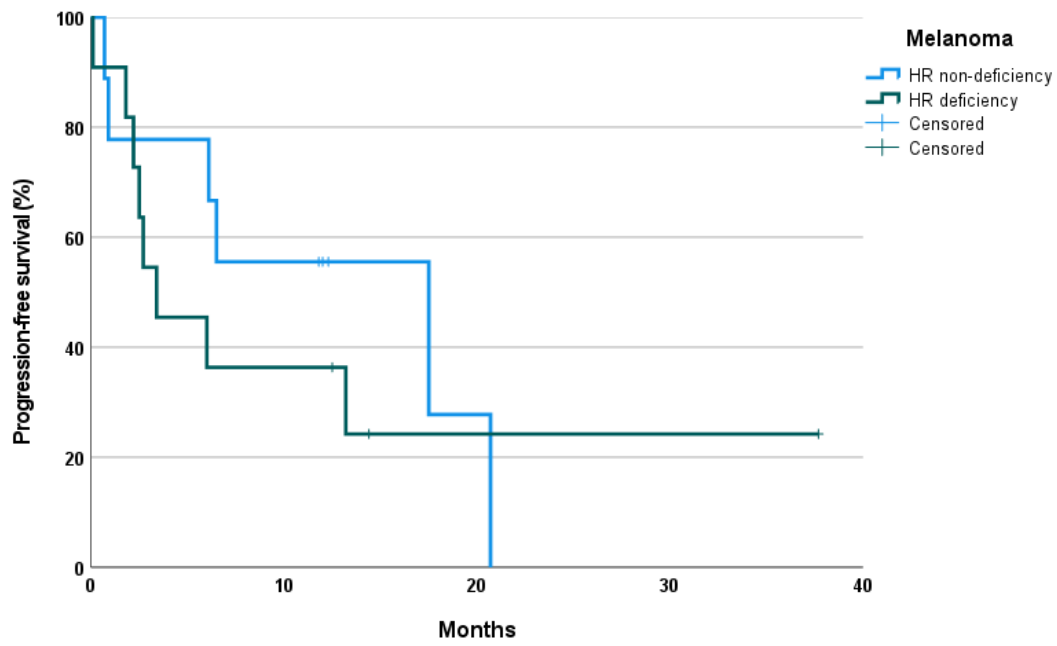
6 status.



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10 GU genitourinary

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