



**Supplementary Figure 1.** The LD plot of 11 candidate SNPs in *BARD1* gene. The SNPs located in exon (rs2229871 and rs1048108) and 5'-UTR (rs34732883, rs17489363 and rs1129804) were in deep LD with each other.

**Supplementary Table 1. SNPs Associated with NB Risk Stratified by Clinicopathologic Characteristic and Primary Tumor Site**

	Categories <sup>b</sup>			Primary Tumor Sites				Tumor Stage <sup>d</sup>				
	GN	GNB	NB	Adrenal	Abdominal	Pelvic	Others	I	II	III	IV	IVs
<b>rs17489363</b>												
<b>Genotypes (Case/Control)</b>												
GG	22/529	32/529	206/529	87/529	90/529	15/529	14/529	32/529	31/529	62/529	65/529	14/529
GA	11/217	21/217	114/217	58/217	40/217	4/217	12/217	11/217	27/217	32/217	33/217	10/217
AA	0/22	6/22	18/22	6/22	7/22	1/22	4/22	2/22	1/22	4/22	11/22	0/22
<b>Adjusted OR (95%CI)<sup>a</sup></b>												
GG	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GA	1.10(0.50-2.44)	1.57(0.88-2.79)	1.26(0.95-1.68)	1.52(1.04-2.21) <sup>c</sup>	1.02(0.68-1.54)	0.61(0.20-1.87)	1.97(0.86-4.51)	0.81(0.40-1.64)	1.97(1.13-3.41) <sup>c</sup>	1.21(0.77-1.92)	1.16(0.74-1.82)	1.70(0.70-4.10)
AA	0.00(0.00-NA)	4.27(1.64-11.12) <sup>c</sup>	2.04(1.06-3.92) <sup>c</sup>	1.57(0.61-4.05)	1.92(0.80-4.62)	2.26(0.82-18.11)	8.03(2.32-27.86)	1.72(0.39-7.63)	0.73(0.09-5.65)	1.60(0.53-4.78)	3.80(1.77-8.15) <sup>c</sup>	0.00(0.00-NA)
) <sup>c</sup>												
<b>rs34732883</b>												
<b>Genotypes (Case/Control)</b>												
TT	21/504	31/504	197/504	82/504	87/504	15/504	13/504	31/504	28/504	61/504	63/504	12/504
TC	11/212	21/212	109/212	58/212	37/212	4/212	10/212	11/212	26/212	31/212	31/212	10/212
CC	0/22	4/22	16/22	4/22	7/22	1/22	4/22	2/22	1/22	2/22	11/22	0/22
<b>Adjusted OR (95%CI)<sup>a</sup></b>												
TT	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
TC	1.11(0.50-2.47)	1.58(0.88-2.82)	1.24(0.93-1.66)	1.58(1.08-2.31) <sup>c</sup>	0.96(0.63-1.46)	0.59(0.19-1.81)	1.69(0.70-4.05)	0.81(0.40-1.65)	2.07(1.17-3.65) <sup>c</sup>	1.16(0.73-1.85)	1.10(0.69-1.75)	2.00(0.80-4.97)
CC	0.00(0.00-NA)	3.33(1.07-10.40) <sup>c</sup>	1.81(0.93-3.56)	1.01(0.33-3.05)	1.95(0.81-4.70)	2.29(0.28-18.45)	8.74(2.51-30.45)	1.71(0.38-7.62)	0.73(0.09-5.68)	0.79(0.18-3.46)	3.86(1.80-8.30) <sup>c</sup>	0.00(0.00-NA)
) <sup>c</sup>												

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**rs1129804****Genotypes (Case/Control)**

CC	11/302	26/302	93/302	57/302	57/302	7/302	14/302	14/302	24/302	42/302	41/302	12/302
CG	17/354	28/354	117/354	78/354	60/354	10/354	15/354	23/354	26/354	47/354	57/354	9/354
GG	5/103	5/103	30/103	18/103	20/103	3/103	1/103	8/103	9/103	10/103	11/103	3/103

**Adjusted OR (95%CI)<sup>a</sup>**

CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CG	1.55(0.68-3.54)	0.95(0.54-1.66)	1.11(0.80-1.53)	1.22(0.83-1.79)	0.92(0.62-1.37)	1.26(0.47-3.37)	1.06(0.49-2.31)	1.43(0.72-2.83)	0.95(0.53-1.71)	0.97(0.62-1.52)	1.24(0.80-1.91)	0.63(0.25-1.61)
GG	1.08(0.38-3.02)	0.60(0.23-1.53)	0.98(0.62-1.55)	0.89(0.51-1.55)	1.15(0.68-1.94)	1.21(0.34-4.25)	0.28(0.04-2.12)	1.44(0.65-3.19)	1.33(0.63-2.85)	0.76(0.38-1.52)	0.77(0.40-1.49)	1.10(0.30-4.06)

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**rs2229571****Genotypes (Case/Control)**

GG	8/232	12/232	42/232	27/232	33/232	2/232	5/232	10/232	9/232	23/232	15/232	8/232
GC	15/370	27/370	121/370	79/370	59/370	10/370	16/370	24/370	27/370	46/370	58/370	8/370
CC	10/169	20/169	73/169	45/169	42/169	8/169	9/169	11/169	23/169	28/169	35/169	7/169

**Adjusted OR (95%CI)<sup>a</sup>**

GG	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GC	0.71(0.27-1.84)	1.52(0.75-3.07)	2.14(1.43-3.20) <sup>c</sup>	2.13(1.32-3.43) <sup>c</sup>	1.22(0.77-1.94)	3.58(0.77-16.57)	3.16(1.02-9.79) <sup>c</sup>	1.61(0.75-3.44)	2.24(1.02-4.91) <sup>c</sup>	1.36(0.80-2.32)	2.72(1.50-4.95) <sup>c</sup>	0.81(0.29-2.29)
CC	0.67(0.29-1.51)	1.96(1.10-3.49) <sup>c</sup>	2.00(1.41-2.84) <sup>c</sup>	1.83(1.22-2.74) <sup>c</sup>	1.86(1.23-2.82) <sup>c</sup>	2.98(1.16-7.66) <sup>c</sup>	2.44(1.03-5.76) <sup>c</sup>	1.27(0.62-2.59)	3.30(1.84-5.94) <sup>c</sup>	1.71(1.05-2.77)	1.94(1.24-3.04) <sup>c</sup>	2.75(1.01-7.48) <sup>c</sup>

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**rs3738888****Genotypes (Case/Control)**

CC	31/749	57/749	229/749	143/749	131/749	20/749	18/749	42/749	56/749	97/749	105/749	21/749
CT	2/18	2/18	11/18	9/18	6/18	0/18	0/18	3/18	3/18	2/18	4/18	3/18
TT	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0

**Adjusted OR (95%CI)<sup>a</sup>**

CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CT	2.38(0.46-12.29)	1.52(0.34-6.80)	2.19(0.96-5.00)	2.72(1.15-6.45) <sup>c</sup>	2.26(0.87-5.92)	0.00(0.00-NA)	0.00(0.00-NA)	3.32(0.92-11.92)	2.09(0.23-18.98)	1.03(0.23-4.56)	1.73(0.57-5.29)	6.61(1.25-35.09) <sup>c</sup>

TT	-	-	-	-	-	-	-	-	-	-	-	-
<b>rs1048108</b>												
<b>Genotypes (Case/Control)</b>												
CC	10/307	32/307	100/307	61/307	62/307	9/307	15/307	14/307	26/307	45/307	46/307	91/307
CT	19/369	23/369	112/369	74/369	59/369	8/369	13/369	23/369	28/369	43/369	52/369	95/369
TT	4/95	4/95	27/95	16/95	16/95	3/95	1/95	8/95	5/95	10/95	11/95	21/95
<b>Adjusted OR (95%CI)<sup>a</sup></b>												
CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CT	1.61(0.74-3.53)	0.62(0.36-1.09)	1.00(0.73-1.38)	1.10(0.75-1.61)	0.82(0.55-1.21)	0.80(0.30-2.11)	0.81(0.37-1.77)	1.42(0.72-2.81)	0.97(0.55-1.71)	0.83(0.53-1.29)	1.00(0.65-1.53)	0.93(0.58-1.50)
TT	1.23(0.37-4.02)	0.40(0.14-1.15)	0.88(0.53-1.46)	0.88(0.48-1.63)	0.84(0.46-1.53)	1.07(0.28-4.07)	0.23(0.03-1.78)	1.86(0.75-4.57)	0.64(0.24-1.75)	0.72(0.35-1.48)	0.80(0.39-1.61)	0.85(0.10-1.82)
<b>rs376716</b>												
<b>Genotypes (Case/Control)</b>												
AA	22/555	34/555	149/555	87/555	90/555	15/555	19/555	33/555	34/555	58/555	66/555	17/555
AG	11/200	18/200	81/200	58/200	40/200	5/200	8/200	11/200	23/200	36/200	36/200	5/200
GG	0/18	7/18	6/18	6/18	4/18	0/18	3/18	1/18	2/18	3/18	6/18	1/18
<b>Adjusted OR (95%CI)<sup>a</sup></b>												
AA	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AG	1.10(0.50-2.42)	1.42(0.78-2.58)	1.61(1.16-2.25) <sup>c</sup>	1.92(1.31-2.81) <sup>c</sup>	1.23(0.82-1.85)	0.91(0.32-2.55)	1.19(0.50-2.86)	0.92(0.45-1.86)	1.96(1.11-3.46) <sup>c</sup>	1.74(1.11-2.73) <sup>c</sup>	1.51(0.97-2.34)	0.99(0.34-2.89)
GG	0.00(0.00-NA)	5.55(2.02-14.03) <sup>c</sup>	0.99(0.38-2.57)	1.56(0.60-4.07)	1.21(0.40-3.65)	0.00(0.00-NA)	4.19(1.09-16.19)	0.90(0.12-6.91)	1.43(0.32-6.42)	1.27(0.36-4.41)	2.19(0.84-5.68)	2.47(0.27-22.69)
<b>rs6435862</b>												
<b>Genotypes (Case/Control)</b>												
TT	26/594	38/594	232/594	96/594	99/594	17/594	20/594	36/594	37/594	67/594	71/594	18/594
TG	6/168	17/168	96/168	51/168	35/168	3/168	7/168	8/168	22/168	27/168	33/168	6/168
GG	0/10	4/10	9/10	4/10	2/10	0/10	3/10	1/10	0/10	3/10	5/10	0/10
<b>Adjusted OR (95%CI)<sup>a</sup></b>												

TT	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
TG	0.70(0.27-1.84)	1.54(0.85-2.81)	1.40(1.04-1.90) <sup>c</sup>	1.82(1.23-2.69) <sup>c</sup>	1.20(0.78-1.84)	0.59(0.17-2.05)	1.15(0.46-2.86)	0.76(0.35-1.68)	2.02(1.15-3.57) <sup>c</sup>	1.39(0.86-2.25)	1.56(1.00-2.45) <sup>c</sup>	1.21(0.44-3.28)
GG	0.00(0.00-NA)	5.60(1.68-18.62) <sup>c</sup>	2.05(0.81-5.18) <sup>c</sup>	2.19(0.66-7.26)	1.14(0.25-5.28)	0.00(0.00-NA)	9.12(2.11-39.46)	1.75(0.22-13.99)	0.00(0.00-NA)	2.53(0.68-9.43)	3.44(1.14-10.34) <sup>c</sup>	0.00(0.00-NA)

)<sup>c</sup>

**rs3768707**

**Genotypes (Case/Control)**

CC	18/499	28/499	133/499	78/499	78/499	13/499	14/499	29/499	28/499	52/499	59/499	13/499
CT	15/242	23/242	91/242	65/242	49/242	6/242	12/242	14/242	29/242	41/242	38/242	9/242
TT	0/31	8/31	12/31	8/31	7/31	1/31	4/31	2/31	2/31	4/31	11/31	1/31

**Adjusted OR (95%CI)<sup>a</sup>**

CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CT	1.46(0.68-3.09)	1.66(0.93-2.95)	1.40(1.02-1.93)	1.67(1.15-2.42) <sup>c</sup>	1.25(0.84-1.85)	0.91(0.34-2.45)	1.72(0.76-3.93)	0.97(0.50-1.88)	2.07(1.19-3.59) <sup>c</sup>	1.59(1.02-2.47) <sup>c</sup>	1.28(0.82-1.98)	1.54(0.61-3.87)
TT	0.00(0.00-NA)	3.73(1.62-8.57) <sup>c</sup>	1.32(0.65-2.68)	1.36(0.60-3.08)	1.31(0.56-3.05)	1.29(0.17-10.00)	4.36(1.34-14.24)	1.11(0.26-4.82)	0.92(0.21-4.00)	1.05(0.36-3.07)	2.59(1.25-5.36) <sup>c</sup>	1.64(0.19-14.15)

)<sup>c</sup>

**rs17487792**

**Genotypes (Case/Control)**

CC	23/545	34/545	146/545	83/545	92/545	15/545	19/545	33/545	31/545	60/545	65/545	17/545
CT	9/192	17/192	77/192	57/192	36/192	5/192	6/192	10/192	22/192	33/192	34/192	5/192
TT	0/16	4/16	6/16	4/16	3/16	0/16	3/16	1/16	1/16	1/16	6/16	1/16

**Adjusted OR (95%CI)<sup>a</sup>**

CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CT	0.89(0.38-2.05)	1.39(0.76-2.55)	1.60(1.14-2.24) <sup>c</sup>	2.02(1.38-2.98) <sup>c</sup>	1.11(0.73-1.70)	0.91(0.32-2.55)	0.90(0.34-2.35)	0.86(0.41-1.77)	2.1(1.18-3.78) <sup>c</sup>	1.57(0.99-2.49)	1.48(1.08-7.67) <sup>c</sup>	1.01(0.35-2.95)
TT	0.00(0.00-NA)	3.44(1.10-10.74) <sup>c</sup>	1.18(0.45-3.11)	1.17(0.38-3.64)	1.02(0.29-3.58)	0.00(0.00-NA)	4.81(1.23-18.83)	1.02(0.13-7.89)	0.87(0.11-6.79)	0.47(0.06-3.58)	2.55(0.97-6.73)	3.25(0.33-31.55)

)<sup>c</sup>

**rs7587476**

**Genotypes (Case/Control)**

CC	14/343	28/343	133/343	74/343	77/343	13/343	15/343	28/343	26/343	51/343	59/343	13/343
CT	15/206	21/206	87/206	65/206	44/206	6/206	11/206	13/206	28/206	36/206	38/206	10/206
TT	1/27	8/27	12/27	7/27	9/27	1/27	4/27	2/27	4/27	4/27	10/27	1/27
<b>Adjusted OR (95%CI)<sup>a</sup></b>												
CC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
CT	1.90(0.85-4.24)	1.15(0.63-2.09)	0.94(0.66-1.34)	1.24(0.83-1.84)	0.83(0.54-1.26)	0.68(0.25-1.85)	1.00(0.42-2.34)	0.69(0.35-1.37)	1.52(0.85-2.73)	1.03(0.64-1.66)	0.92(0.59-1.46)	0.86(0.34-2.20)
TT	0.65(0.08-5.30)	2.96(1.26-6.98) <sup>c</sup>	1.11(0.52-2.35)	1.08(0.44-2.64)	1.46(0.65-3.25)	0.80(0.10-6.38)	2.15(0.62-7.41) <sup>c</sup>	0.93(0.21-4.14)	1.50(0.48-4.72)	0.92(0.31-2.78)	1.92(0.88-4.22)	0.90(0.10-8.06)

Abbreviation: NA, not available

<sup>a</sup> Data were calculated by logistic regression analysis with adjustment for sex as covariates

<sup>b</sup> According to the INPC

<sup>c</sup> All P<0.05

<sup>d</sup> At diagnosis according to INSS