Supplementary Materials

Enrichment of SOX2-Positive Cells in Ameloblastoma Patients with Tumor Recurrence and BRAF V600E Mutated Cases

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Table S1. Primers used in targeted DNA sequencing and real-time RT–PCR

DNA sequencing

Primer name	Sequences (5' to 3')
BRAF-ex15F	TGCTTGCTCTGATAGGAAAATG
BRAF-ex15R	AGCATCTCAGGGCCAAAAAT

Real-time RT–PCR

Primer name	Sequences (5' to 3')
hBRAF(V600E)-F	ATTGCACGACAGACTGCAC
hBRAF(V600E)-R	CCCACTCCATCGAGATTTCT
hSOX2-F	GCTACAGCATGATGCAGGACCA
hSOX2-R	GCGAGCTGGTCATGGAGTT
GAPDH-F	GCACCGTCA AGGCTG AGA AC
GAPDH-R	TGGTGGTGA AGACGCCAGT

Table S2. Correlation between the expression statuses of SOX2 and Ki-67.

Histologic type	*p* [a]
Follicular type	0.324
Plexiform type	0.501
Unicystic type	0.103

[a] Spearman's correlation coefficient.

Table S3. Correlation of expression status of SOX2 and Ki-67 with clinical parameters[a].

Histologic Type	Marker Expressed	Clinical parameters		
		Size of lesion	Root resorption	Bone perforation
Follicular type	SOX2	*p*=0.336	*p*=0.731	*p*=0.837
	Ki-67	*p*=0.490	*p*=0.298	*p*=0.261
Plexiform type	SOX2	*p*=0.207	*p*=0.663	*p*=0.968
	Ki-67	*p*=0.652	*p*=0.843	*p*=0.904
Unicystic type	SOX2	*p*=0.840	*p*=0.483	*p*=0.245
	Ki-67	*p*=0.223	*p*=0.151	*p*=0.785

[a] Spearman's correlation coefficient.

Table S4. Correlation of size of lesion to root resorption and bone perforation in three types of ameloblastoma[a].

Histologic type		Root resorption	Bone perforation
Follicular type	Size of lesion	p=0.891	p=0.441
Plexiform type	Size of lesion	Root resorption p=0.636	Bone perforation p=0.053
Unicystic type	Size of lesion	Root resorption p=0.562	Bone perforation p=0.703

[a] Spearman's correlation coefficient.

Table S5. Comparison of expression status of SOX2 and Ki-67 in recurrent lesions[a].

Histologic type	Case number		Labeling indices of SOX2 (%)	Labeling indices of Ki-67 (%)	Comparing SOX2 expression status with other cases without recurrent event in the same type	Comparing Ki-67 expression status with other cases without recurrent event in the same type
Follicular type	AB-3		42.7	1.3		
	AB-6		38.4	1.2		
	AB-7		2.8	1.7		
	AB-8		4	1.0		
	AB-12		4	0.6		
	AB-14		6.2	2.0		
	AB-16		2.2	7.2		
	AB-25		58.2	5.4		
	AB-26		7.2	3.0		
		Mean ± S.D. (%)	18.4 ± 21.7	2.6 ± 2.3	p=0.958	p=0.916
Plexiform type	AB-31		27.4	2.6		
	AB-33		62.7	8.0		
	AB-37		41.7	2.6		
		Mean ±	43.9 ± 17.8	4.4 ± 3.1	p=0.258	p=0.765

		S.D. (%)				
Unicystic type	AB-59		8.5	5.5	-	-

[a] Mann-Whitney U test.

Table S6. Comparison of expression status of SOX2 and Ki-67 in cases with further recurrent lesions[a].

Histologic type	**Case number**		**Labeling indices of SOX2 (%)**	**Labeling indices of Ki-67 (%)**	**Comparing SOX2 expression status with other cases without recurrent event in the same type**	**Comparing Ki-67 expression status with other cases without recurrent event in the same type**
Follicular type	AB-16		2.2	7.2		
	AB-19		26.5	2.2		
	AB-25		58.2	5.4		
		Mean ± S.D. (%)	29.0 ± 28.1	5.8 ± 3.9	p=0.546	p=0.146
Plexiform type	AB-31		27.4	2.6		
	AB-37		41.7	2.6		
	AB-39		15.0	2.9		
	AB-43		9.1	1.9		
		Mean ± S.D. (%)	23.3 ± 14.4	2.5 ± 0.4	p=0.763	p=0.635

[a] Mann-Whitney U test.

Table S7. Comparison of expression status of SOX2 and Ki-67 in mural type and luminal/intra-luminal type unicystic ameloblastomas[a].

Subtypes of unicystic ameloblastoma	SOX2 expression status	Ki-67 expression status
Mural type	*p*=0.452	*p*=0.971
Intra-luminal/luminal type		

[a] Mann-Whitney U test.

Table S8. Comparison of expression status of SOX2 and Ki-67 in intra-luminal/luminal type and other types of ameloblastomas[a].

Histologic type	Sox2 expression status Mean ± S.D. (%)	*p*	Ki-67 expression status Mean ± S.D. (%)	*p*
Intra-luminal/luminal type	13.5 ± 9.5	0.653	2.8 ± 2.3	0.809
Other types	22.2 ± 21.0		3.2 ± 2.7	

[a] Mann-Whitney U test.

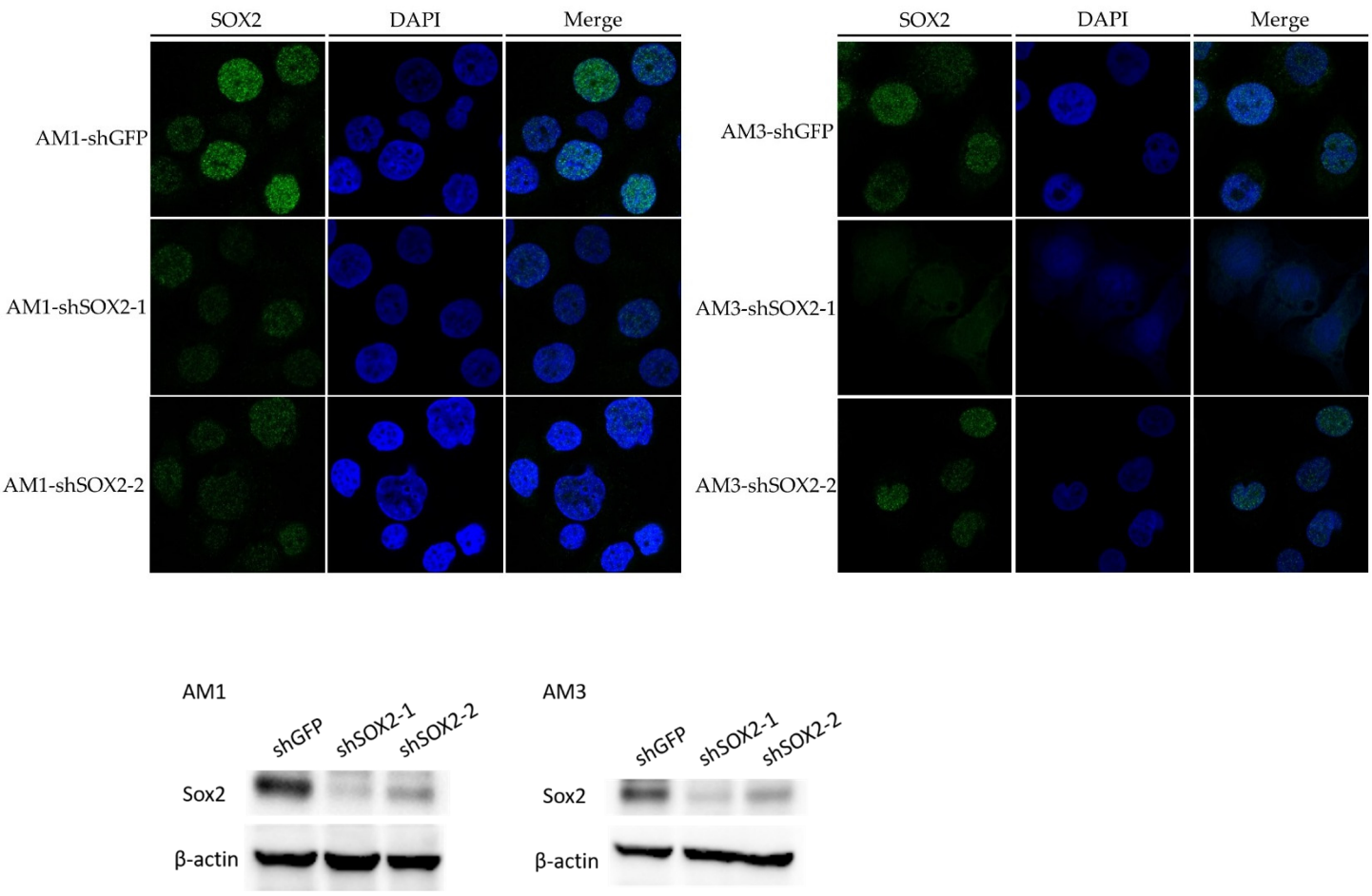

Figure S1. Knockdown efficiency of SOX2 in ameloblastoma cell lines.

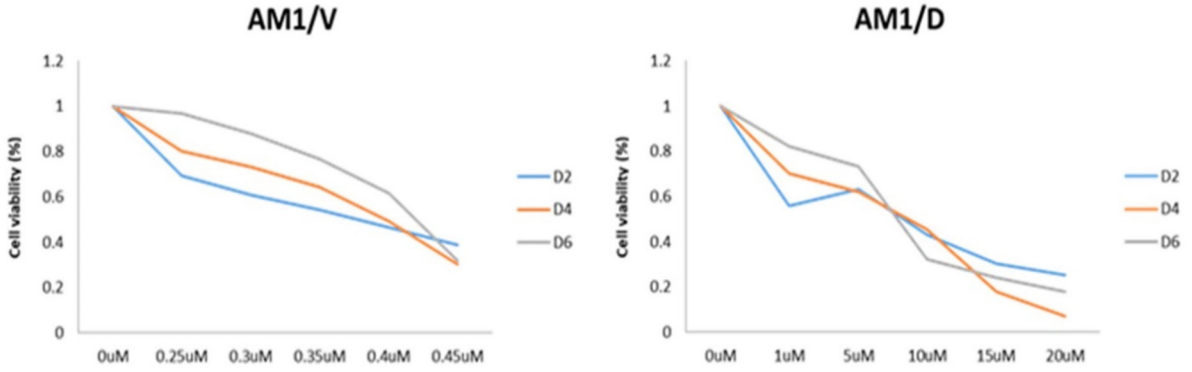

Figure S2. Inhibition of BRAF reduces cell viability of AM1 cells. AM1 cell was treated with BRAF inhibitors (**V:** vemurafenib; **D**: dabrafenib) for 2, 4 and 6 days then analysis the cell viability.