

Table S1. The summary of demographic and clinicopathological characteristics of the MCL cases.

Overall (N=31)	
Sex	
Female	5 (16.1%)
Male	26 (83.9%)
Age (years)	
Mean (SD)	63.0 (11.4)
Median [Min, Max]	63.0 [39.0, 81.0]
Stage	
II	1 (3.2%)
III	3 (9.7%)
IV	25 (80.6%)
NA	2 (6.5%)
Ki67 Index (%)	
Mean (SD)	37.4 (18.5)
Median [Min, Max]	30.0 [10.0, 75.0]
NA	2 (6.5%)
LDH Level (U/l)	
Mean (SD)	222 (67.5)
Median [Min, Max]	207 [107, 386]
NA	4 (12.9%)
B symptoms	
Absent	20 (64.5%)
Present	9 (29.0%)
NA	2 (6.5%)
Initial Treatment	
R-CHOP	16 (51.6%)
R-CHOP + R-DHAP	11 (35.5%)
R-CHOP + Radiotherapy	1 (3.2%)
NA	3 (9.7%)
MIPI	
High risk	27 (87.1%)
Intermediate risk	1 (3.2%)
Low risk	1 (3.2%)
NA	2 (6.5%)

LDH: Lactate dehydrogenase

R-CHOP: Rituximab- Cyclophosphamide, Hydroxydaunomycin, Oncovin, Prednisone

R-DHAP: Rituximab- Dexamethasone, Cytarabine, Cisplatin

MIPI: Mantle Cell Lymphoma International Prognostic Index

NA: Not available

Table S2. RIN and DV200 scores of MCL and control samples.

Case no	WTS sample code	RIN score	DV200 (%) score	Genome sequencing company
Case-01	Case-01	2.8	-	Novogene
Case-02	Case-02	3.2	-	Novogene
Case-03	Case-03	2.3	70.34	Macrogen
Case-04-1	Case-04-1	2.4	-	Novogene
Case-04-2	Case-04-2	2.3	-	Novogene
Case-05	Case-05	3.3	80.73	Macrogen
Case-06	Case-06	2.4	-	Novogene
Case-07	Case-07	2.7	75.85	Macrogen
Case-08	Case-08	2.2	71.44	Macrogen
Case-09	Case-09	3.2	71.31	Macrogen
Case-10	Case-10	1.9	78.67	Macrogen
Case-11	Case-11	3.1	72.71	Macrogen
Case-12	Case-12	2.3	-	Novogene
Case-13	Case-13	2.3	-	Novogene
Case-14	Case-14	2.3	-	Novogene
Case-15	Case-15	1.8	-	Novogene
Case-16	Case-16	2.3	71.27	Macrogen
Case-17	Case-17	1.7	-	Novogene
Case-18	Case-18	2.1	58.26	Macrogen
Case-19	Case-19	2.4	-	Novogene
Case-20	Case-20	2.3	-	Novogene
Case-21	Case-21	2.4	-	Novogene
Case-22	Case-22	1.9	58.34	Macrogen
Case-23	Case-23	2.4	-	Novogene
Case-24	Case-24	2.5	-	Novogene
Case-25	Case-25	2.2	-	Novogene
Case-26	Case-26	2.6	-	Novogene
Case-27	Case-27	2.3	-	Novogene
Case-28	Case-28	2.3	-	Novogene
Case-29	Case-29	2.5	-	Novogene
Case-30	Case-30	2.7	-	Novogene
Case-31	Case-31	2.3	-	Novogene
NBC-01	Control-01	7.5	-	Novogene
NBC-02	Control-02	8.8	-	Novogene
NBC-03		5.9	-	Novogene
NBC-04		4.6	-	Novogene
NBC-05		2.7	-	Novogene
MBC-01	Control-03	8.9	-	Novogene
MBC-02		7.7	-	Novogene
MBC-03		7.9	-	Novogene
CC-01	Control-04	8.2	-	Novogene
CC-02	Control-05	8.7	-	Novogene
CC-03		7	-	Novogene
CC-04		5.8	-	Novogene

∴ RNA samples **without** DV200 (%) score.

Table S3. Control group samples used in WTS and qRT-PCR validation.

Reactive tonsil code*	WTS sample code	Control group samples	WTS usage (Pooled/non-pooled)	qRT-PCR Validation (SNHG5 or CCND1)
RTT-01	Control-01	NBC-01	Non-pooled	SNHG5
RTT-02	Control-02	NBC-02	Pooled	SNHG5
RTT-03		NBC-03		-
RTT-04		NBC-04		CCND1
RTT-05		NBC-05		CCND1
RTT-06	Control-03	MBC-01	Pooled	SNHG5
RTT-01		MBC-02		CCND1
RTT-07		MBC-03		-
RTT-01	Control-04	CC-01	Non-pooled	-
RTT-03	Control-05	CC-02	Pooled	SNHG5
RTT-04		CC-03		CCND1
RTT-05		CC-04		SNHG5, CCND1
RTT-03	Not used in WTS	MBC-04	Not used	CCND1

-: Control samples **not used** for the **qRT-PCR validation**.

NBC: Reactive tonsil naive B cells

MBC: Reactive tonsil memory B cells

CC: Reactive tonsil centrocytes

RTT: Reactive tonsil tissue

*Each of the reactive tonsil tissues was obtained from a different individual.

Table S4. Basic statistics of whole transcriptome sequencing.

Case number	Sample type	Total raw read number	Q20 (%)	Q30 (%)	GC (%)	Genome sequencing company
Case-01	FFPE tRNA	90831962	97.45	93.86	37.26	Novogene
Case-02	FFPE tRNA	117591776	97.56	94.02	38.75	Novogene
Case-03	FFPE tRNA	82136132	98.704	96.398	43.442	Macrogen
Case-04-1	FFPE tRNA	104570182	96.65	91.20	43.20	Novogene
Case-04-2	FFPE tRNA	96138846	97.47	93.83	40.14	Novogene
Case-05	FFPE tRNA	75192548	98.576	96.125	42.894	Macrogen
Case-06	FFPE tRNA	85592928	97.65	94.22	39.32	Novogene
Case-07	FFPE tRNA	70226712	98.628	96.217	43.538	Macrogen
Case-08	FFPE tRNA	69978056	98.575	96.132	42.519	Macrogen
Case-09	FFPE tRNA	74057924	98.628	96.165	45.730	Macrogen
Case-10	FFPE tRNA	56753632	98.59	96.25	44.27	Macrogen
Case-11	FFPE tRNA	72244348	98.669	96.318	43.420	Macrogen
Case-12	FFPE tRNA	100083980	96.72	91.53	44.74	Novogene
Case-13	FFPE tRNA	106195216	96.73	91.43	43.37	Novogene
Case-14	FFPE tRNA	111891342	97.31	92.7	55.7	Novogene
Case-15	FFPE tRNA	108799404	97.25	92.56	54.71	Novogene
Case-16	FFPE tRNA	63634496	98.86	96.87	42.98	Macrogen
Case-17	FFPE tRNA	100157812	96.52	91.11	45.82	Novogene
Case-18	FFPE tRNA	75514478	98.673	96.051	56.539	Macrogen
Case-19	FFPE tRNA	97789426	96.79	91.6	43.69	Novogene
Case-20	FFPE tRNA	108569252	96.52	91.2	46.2	Novogene
Case-21	FFPE tRNA	106357030	96.56	91.32	45.03	Novogene
Case-22	FFPE tRNA	68515654	98.643	96.234	44.568	Macrogen
Case-23	FFPE tRNA	103598684	96.43	90.81	42.42	Novogene
Case-24	FFPE tRNA	112811778	97.31	93.4	46.84	Novogene
Case-25	FFPE tRNA	106341400	96.68	91.39	43.39	Novogene
Case-26	FFPE tRNA	92950872	97.39	93.65	41.43	Novogene
Case-27	FFPE tRNA	88991804	97.48	93.8	41.97	Novogene
Case-28	FFPE tRNA	101516630	95.97	89.94	42.43	Novogene
Case-29	FFPE tRNA	103480146	96.56	91.13	42.7	Novogene
Case-30	FFPE tRNA	104468972	96.59	91.19	43.13	Novogene
Case-31	FFPE tRNA	81421512	97.33	93.53	40.75	Novogene
Control-01	NBC RNA	101290336	97.13	92.95	44.98	Novogene
Control-02	NBC RNA (4 control samples pooled)	104674474	97.11	92.78	51.35	Novogene
Control-03	MBC RNA (3 control samples pooled)	105511034	96.84	92.48	56.62	Novogene
Control-04	CC RNA	103685958	97.31	93.27	46.25	Novogene
Control-05	CC RNA (3 control samples pooled)	108084430	97.19	92.87	50.58	Novogene

FFPE tRNA: Formalin-fixed paraffin-embedded tumor tissue RNA

NBC RNA: Naive B cells RNA

MBC RNA: Memory B cells RNA

CC RNA: Centrocyles RNA

GC(%): GC content.

Q20(%): Ratio of bases that have phred quality score of over 20.

Q30(%): Ratio of bases that have phred quality score of over 30.