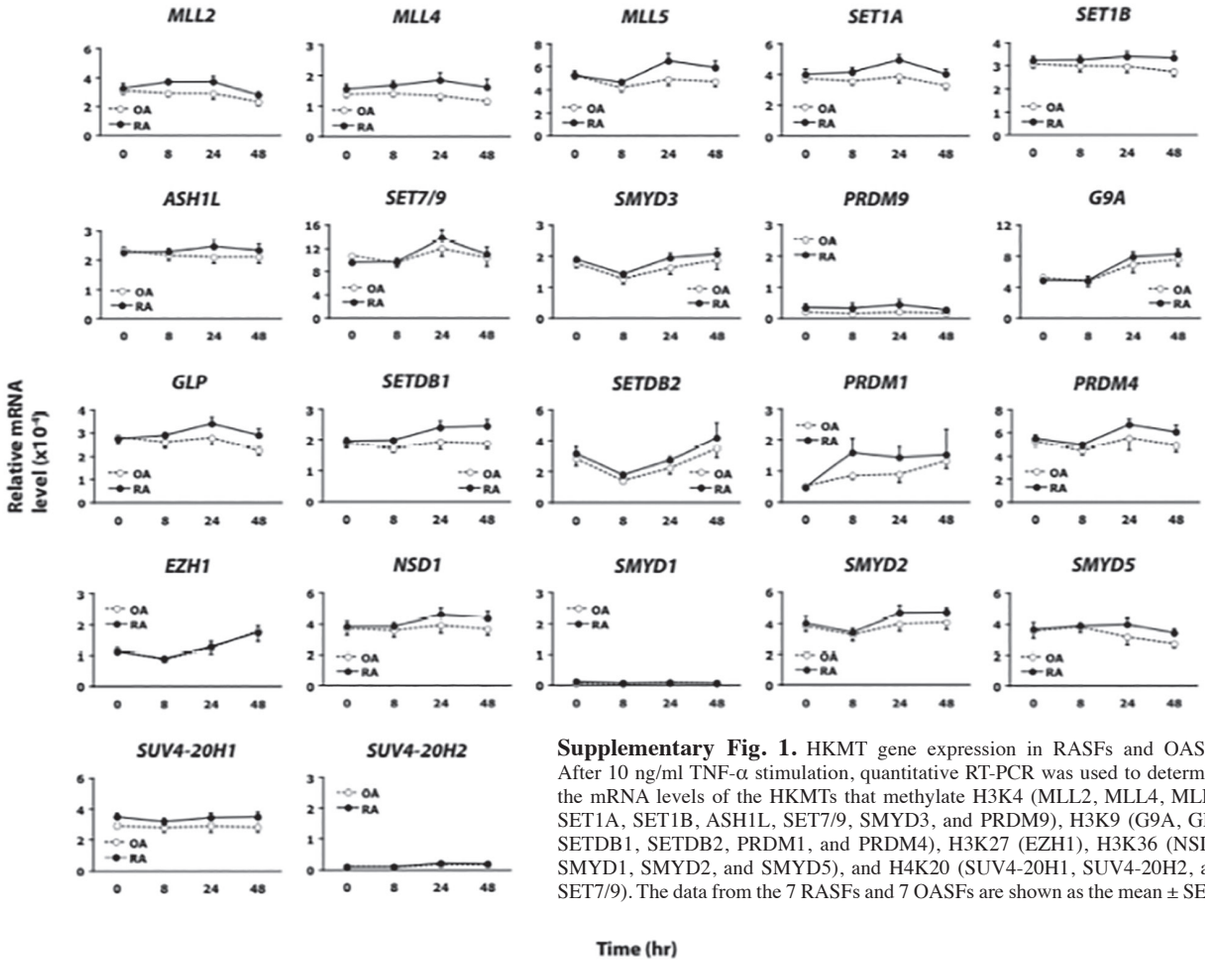
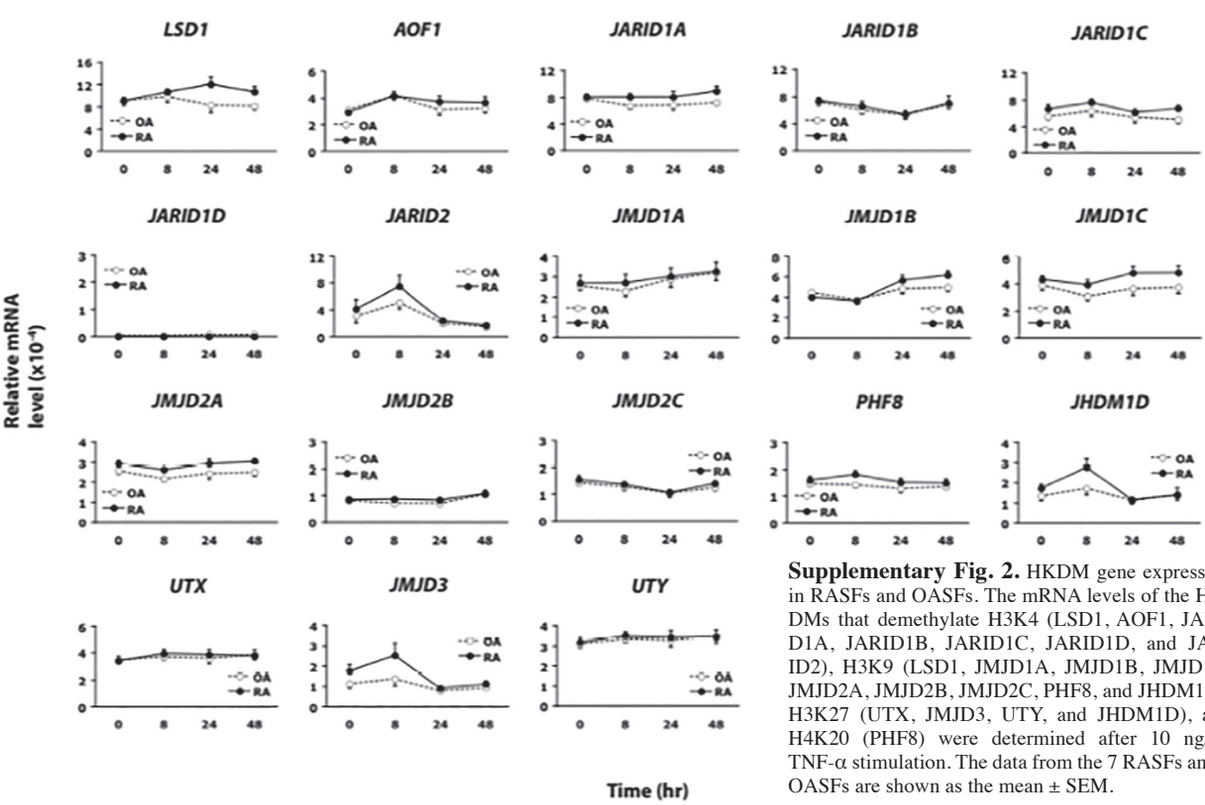


Supplementary Fig. 1. HKMT gene expression in RASFs and OASFs. After 10 ng/ml TNF-α stimulation, quantitative RT-PCR was used to determine the mRNA levels of the HKMTs that methylate H3K4 (MLL2, MLL4, MLL5, SET1A, SET1B, ASH1L, SET7/9, SMYD3, and PRDM9), H3K9 (G9A, GLP, SETDB1, SETDB2, PRDM1, and PRDM4), H3K27 (EZH1), H3K36 (NSD1, SMYD1, SMYD2, and SMYD5), and H4K20 (SUV4-20H1, SUV4-20H2, and SET7/9). The data from the 7 RASFs and 7 OASFs are shown as the mean ± SEM.



Supplementary Fig. 2. HKDM gene expression in RASFs and OASFs. The mRNA levels of the HKDMs that demethylate H3K4 (LSD1, AOF1, JARID1A, JARID1B, JARID1C, JARID1D, and JARID2), H3K9 (LSD1, JMJD1A, JMJD1B, JMJD1C, JMJD2A, JMJD2B, JMJD2C, PHF8, and JHDM1D), H3K27 (UTX, JMJD3, UTY, and JHDM1D), and H4K20 (PHF8) were determined after 10 ng/ml TNF-α stimulation. The data from the 7 RASFs and 7 OASFs are shown as the mean ± SEM.

Supplementary Table I. List of the primers for HKMTs.

Residue	KMT family	Gene name	Forward primer (5'-3')	Reverse primer (5'-3')
H3K4	KMT2	MLL1	ACCCAAAATCCAGCAAATGAAC	GCATCAGTGGGGAGCTGAA
		MLL2	GAAGAGCAGAATCGAGGCATCT	AGTTAGGGGCACAGGAATGGT
		MLL3	TGGCACGGTCTCGGATT	TTTCCTGTTGGCTACTTCGTTTC
		MLL4	GGCACCACTATTCAGGTGAGG	TTTTGGGGCCTGGTTCTCT
		MLL5	CACCCCAGAATCCACCACA	TTAGAGCCACTTTTCCTAGCTTCAC
		SET1A	CGAATACGTGGGTCAGAACATC	TCGATGATGGTGTCGTGGT
		SET1B	CATGGACTGGCTTAACGACAC	CATCGTCCCGTTTCTTCTTCT
		ASH1L	GTGAGCAGTGTGACCCAAGG	GGAGCAAACAGATGAAGTAGACACA
	KMT7	SET7/9	AAGGTAGCTGTGGGACCTAATACTG	TCATCAAGGGAGAGGGTGTTC
		SMYD3	TTCCGTTGCCAAACCCAGGACAAG	CTTCCAGTGTGCCTTCAGTTCTTC
		PRDM9	GGACAGCACTCAAGACTAAAACTGG	ATAGAGGTAATCATCATCCTGCGG
H3K9	KMT1	SUV39H1	CTGGAGAAGATTCGCAAGAAC	CAGGTCAAAGAGGTAGGTGGC
		SUV39H2	TTCACAGTGGATGCGGCTCG	CAATGCTATTCGGGGAAGAC
		G9A	ATCGCAACATCACCCACCT	CGCCCATCCTTGTCATACC
		GLP	TCCTGGCTGTGGCTACTTC	AGTCTTTGTGGAAACGGTGAG
		SETDB1	TTGATTCAGGTGATGCTGGGAG	GGGAACTGCTCTTCTTGTTGACAG
		SETDB2	CACAAAAGAAGGAAATGTCGG	TGAAGAATGCCACCAATGG
		PRDM1	GGCTACAAGACCCTTCCCTAC	GGTGGACCTTCAGATTGGAG
		PRDM2	GCCATTTGTTGGTGATAAG	GCCAGTTTCCCTTCTCTG
		PRDM4	CCGAGATTATGCTCAACAGATTGG	ATGTGGCTGGTCAGATGGGCTTTG
H3K27	KMT6	EZH1	GCAACCCAGACTGTCAGAATCG	TCTCGCACTGCCAGATAGCAAG
		EZH2	AAAGGACGGCTCCTCTAACCA	GCTATCACACAAGGGCACGA
H3K36	KMT3	SETD2	AGACAGCAGAAGCAGACACCTC	TGGACGATGAACTGGGACA
		NSD1	GCCAAAGAATCAACCCATTGC	AGCATCCCCACAACTAAAACACTC
		NSD2	GGATACAGGACCCTACAGAAGATGC	CCGTTTTGTCAGTGATTGTGTCTC
		NSD3	GAGAAATCCACTGAGGTTGTGCC	GTCTTCACTGTAGCCTGAGGAACTG
		SMYD1	TTTGCCCATTACTGCGACCG	GCCAGCCTGATGTTCTCATTGG
		SMYD2	GAAGGAGTTTGAATCACATCTGGA	TTGGAGTAAAAGTGATGGAGAGCA
		SMYD3	Shown above	Shown above
		SMYD4	AACACACAGGACCTAAAGGGAGC	GGAGGCTGATAACAGGGAAGATG
		SMYD5	AGGGGGAGACCATCTTCGTAGAAC	CACAGGCTCGGTAGCGATAAAG
H3K79	KMT4	DOT1	GAAAATGGTGGTGGCTTGG	TCGGAGATGGGCGAGAA
H4K20	KMT5	PR-set7	CAAGCCCTGAAAAAGCCCATC	CCGTAAGTTTGCGATTCTGTTGC
		SUV4-20H1	ACTCATCAGAACAAAATGGAGC	CGGCAATACAACCCACCAG
		SUV4-20H2	CCACTCGTGCTTGGAAAAAG	TGCTGAAGTCATTCTCACCG
	KMT7	SET7/9	Shown above	Shown above

Supplementary Table II. List of the primers for HKDMs.

Residue	KDM family	Gene name	Forward primer (5'-3')	Reverse primer (5'-3')
H3K4	KDM1	LSD1	GCTCTTCCTCTTCTGGAACCTCT	AGGCATCGGCCAACAATC
		AOF1	TTCAAGGAGCAGGAGGTCCCAG	CTGTCTTCACAAAACTGTATGCC
	KDM2	FBXL10	GGGTGGAGGGACTAAAGGATG	CCGATTGTCCATCTGACCTG
	KDM5	JARID1A	CATGGAGGATGACAGCATGG	GCTTCCGTTTCCGTTTCTTCT
		JARID1B	AGATGGCAAGCCTCAGCAG	TCCCAGTCATCAGGCAAAGA
		JARID1C	GATATGCCTAAGGTCCAGGGCTTAC	TGGCAACAGCGAGGACA
		JARID1D	TCTAAGGTCCAAGGGCTGC	AGTCAACTGCGGCAACAG
		JARID2	GACGGGAAGAAAAAGCCTCG	AGCACACTCCAGACAGAACACGAC
		NO66	ATTCACGATTCTCTGCCCCC	TTTACAGGTTCTCCAGCCTCCCAG
H3K9	KDM1	LSD1	Shown above	Shown above
	KDM3	JMJD1A	TGACGAACTCACAATAAAGCG	TTGACCTTGCTCTTCTGATACC
		JMJD1B	CCCACACCAGGTTCACAATC	GAGTCAGGCGGAAACAGTG
	KDM4	JMJD2A	CTCCTTCAGCGACAATCTTTATCC	ATCTCACTTGGACCACTTCCCC
		JMJD2B	CACAAGCCAGATAGCAGCAATG	TTAGTCTTTCCCTCCGATGTAACG
		JMJD2C	TGACGGCAACCTCTACAAGG	AGATGTCCCCACGCTTCAC
		JMJD2D	CCAGGAAAGCAGGAACCTTGTC	ACCCAAATGTAGCAGAGAATGTCC
		JMJD1C	CAGTTCCTTGGTGATGCTATTG	GGAGACACAAAATCTTCAGTTACC
		PHF8	ATGGAGTCCTAAAGCCCGC	GCCAAACCTGTCTCAATAGAGG
		JHDM1D	GATACTTCCAGATTTCATCCTC	TTGAGCCGCTGCTGTCCAC
H3K27	KDM6	UTX	TGTAGCATTTGTGAAGTGGAGG	TCCGCTTGTTTTTCGTGC
		JMJD3	ATCAAGTTCTGCCTGCTGC	GCCCTGGTAAGCGATTTTC
		UTY	CCAAGACCACCAACTTCACC	GGAGGAAAGAAAGCATCACG
		JHDM1D	Shown above	Shown above
H3K36	KDM2	FBXL10	Shown above	Shown above
		FBXL11	GGCTGCCAGGACTGAAAGA	TCCTACTGCCCACCGAAGA
	KDM4	JMJD2A	Shown above	Shown above
		JMJD2B	Shown above	Shown above
		JMJD2C	Shown above	Shown above
		NO66	Shown above	Shown above
H4K20		PHF8	Shown above	Shown above