Stem cell Information			
Stem cell line	**CMC-iPSC-003**	Insitute	KSCR
Cell type	**hiPSC**	Banking year	2017
Banking status	**MCB**		
Passage	**p18**		

Single Nucleotide Variation(SNV), short Insert/Deletion(INDEL) analysis

Experiment of data Analysis

Whole Exome Sequencing

Instrument	Illumina HiSeq2500	Analysis program	GATK (v3.5)
Exome Kit	Agilent SureSelectXT V5+UTR	Analysis document	SOP-BI-01
Read length (bp)	101x2	Reference	hg19

Statistics

Total reads	192,696,964
Total yield (Gbp)	19.4
Throughput mean depth(X)	258
On-targe reads	99,790,708
On-target depth(X)	135

Result of data Analysis

SNV, INDEL call

			Stemness	Differenciation
Total variant		103,063		
	SNV	92,515		
	DEL	5,357		
	INS	5,191		
Coding regions		22,405	9	18
	Synonymous	10,296	-	-
	Missense	9,706	9	18
	Inframeshift	176	-	-
	Frameshift	136	-	-
	Nonsense	127	-	-
	SpliceRegion	1,964	-	-

* Variant calling condition: GATK, DP(>=10)+MQ(>=58)+AF(>=0.3)

Stemness gene

	Chr	Chr_start	dbsnp135_full	Ref	Alt	Type	Hom_het	Change	Gene	HGVS_C	HGVS_P	비고
1	4	89061114	rs2231137	C	T	SNP	`0/1	missense	ABCG2	c.34G>A	`p.Val12Met	NM_001257386.1
2	1	21894735	rs3200254	T	C	SNP	`1/1	missense	ALPL	c.556T>C	`p.Tyr186His	NM_001177520.1
3	13	28537317	rs1805107	G	A	SNP	`1/1	missense	CDX2	c.877C>T	`p.Pro293Ser	NM_001265.4
4	3	109052732	rs3762648	T	C	SNP	`0/1	missense	DPPA4	c.163A>G	`p.Ile55Val	NM_018189.3
5	2	47601106	rs1126497	T	C	SNP	`1/1	missense	EPCAM	c.344T>C	`p.Met115Thr	NM_002354.2
6	9	110250091	.	G	A	SNP	`0/1	missense	KLF4	c.584C>T	`p.Pro195Leu	NM_004235.5
7	1	226076669	rs41310561	C	T	SNP	`0/1	missense	LEFTY1	c.98G>A	`p.Arg33Gln	NM_020997.3
8	7	131193739	rs3212298	C	T	SNP	`0/1	missense	PODXL	c.976G>A	`p.Val326Ile	NM_005397.3
9	1	12175729	rs1763642	C	T	SNP	`1/1	missense	TNFRSF8	c.556C>T	`p.Arg186Cys	NM_001281430.2

Differenciation gene

	Chr	Chr_start	dbsnp135_full	Ref	Alt	Type	Hom_het	Change	Gene	HGVS_C	HGVS_P	비고
1	16	66432423	rs1049970	T	C	SNP	`1/1	missense	CDH5	c.1550T>C	`p.Ile517Thr	NM_001795.4
2	13	28537317	rs1805107	G	A	SNP	`1/1	missense	CDX2	c.877C>T	`p.Pro293Ser	NM_001265.4
3	12	48367976	rs2070739	C	T	SNP	`0/1	missense	COL2A1	c.4006G>A	`p.Gly1336Ser	NM_033150.2
4	14	38061742	rs7144658	C	T	SNP	`1/1	missense	FOXA1	c.247G>A	`p.Ala83Thr	NM_004496.3
5	4	57516896	rs4371677	G	A	SNP	`0/1	missense	HOPX	c.281C>T	`p.Pro94Leu	NM_001145460.1
6	1	226076669	rs41310561	C	T	SNP	`0/1	missense	LEFTY1	c.98G>A	`p.Arg33Gln	NM_020997.3
7	2	210558162	rs741006	G	A	SNP	`0/1	missense	MAP2	c.1268G>A	`p.Arg423Lys	NM_002374.3
8	2	171260787	rs6736609	G	A	SNP	`1/1	missense	MYO3B	c.2308G>A	`p.Val770Ile	NM_001083615.3
9	2	171260797	rs33962844	A	G	SNP	`0/1	missense	MYO3B	c.2318A>G	`p.Glu773Gly	NM_001083615.3
10	2	171356274	rs10185178	G	A	SNP	`1/1	missense	MYO3B	c.3245G>A	`p.Arg1082Lys	NM_001083615.3
11	10	72195439	rs1904589	T	C	SNP	`1/1	missense	NODAL	c.494A>G	`p.His165Arg	NM_018055.4
12	10	72195460	.	G	A	SNP	`0/1	missense	NODAL	c.473C>T	`p.Pro158Leu	NM_018055.4
13	14	73727509	rs177389	T	G	SNP	`0/1	missense	PAPLN	c.1997T>G	`p.Met666Arg	NM_173462.3
14	14	73711394	rs2280792	A	G	SNP	`0/1	missense	PAPLN	c.97A>G	`p.Ser33Gly	NM_173462.3
15	14	73729069	rs148072678	C	T	SNP	`0/1	missense	PAPLN	c.2176C>T	`p.Arg726Trp	NM_173462.3
16	4	55138665	.	A	G	SNP	`0/1	missense	PDGFRA	c.1342A>G	`p.Met448Val	NM_006206.4
17	17	64783081	rs6504459	G	A	SNP	`1/1	missense	PRKCA	c.1702G>A	`p.Val568Ile	NM_002737.2
18	8	97614625	rs3816208	G	A	SNP	`1/1	missense	SDC2	c.175G>A	`p.Ala59Thr	NM_002998.3