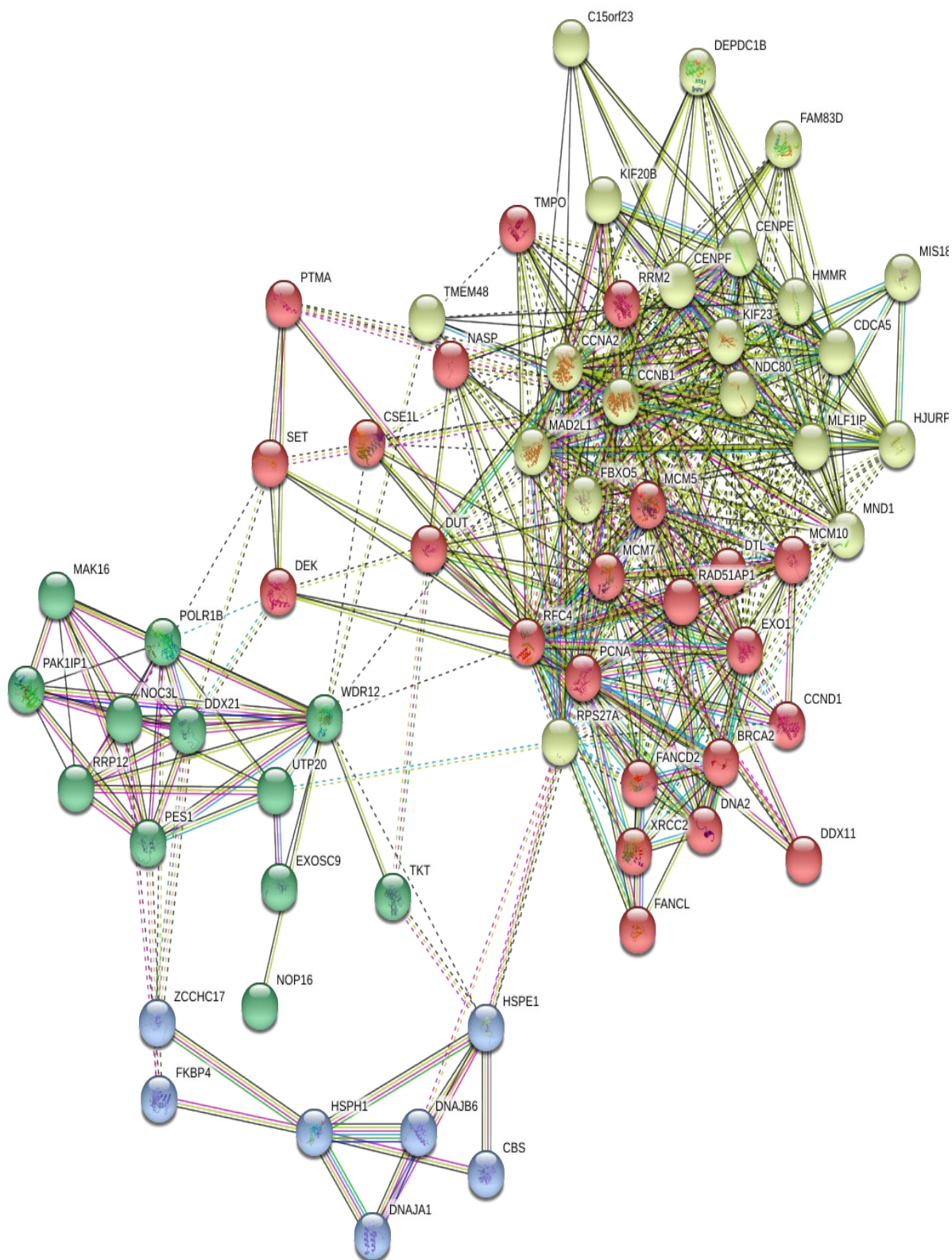


**Supplementary table 1** : Detailed protocols, culture medium changed everyday

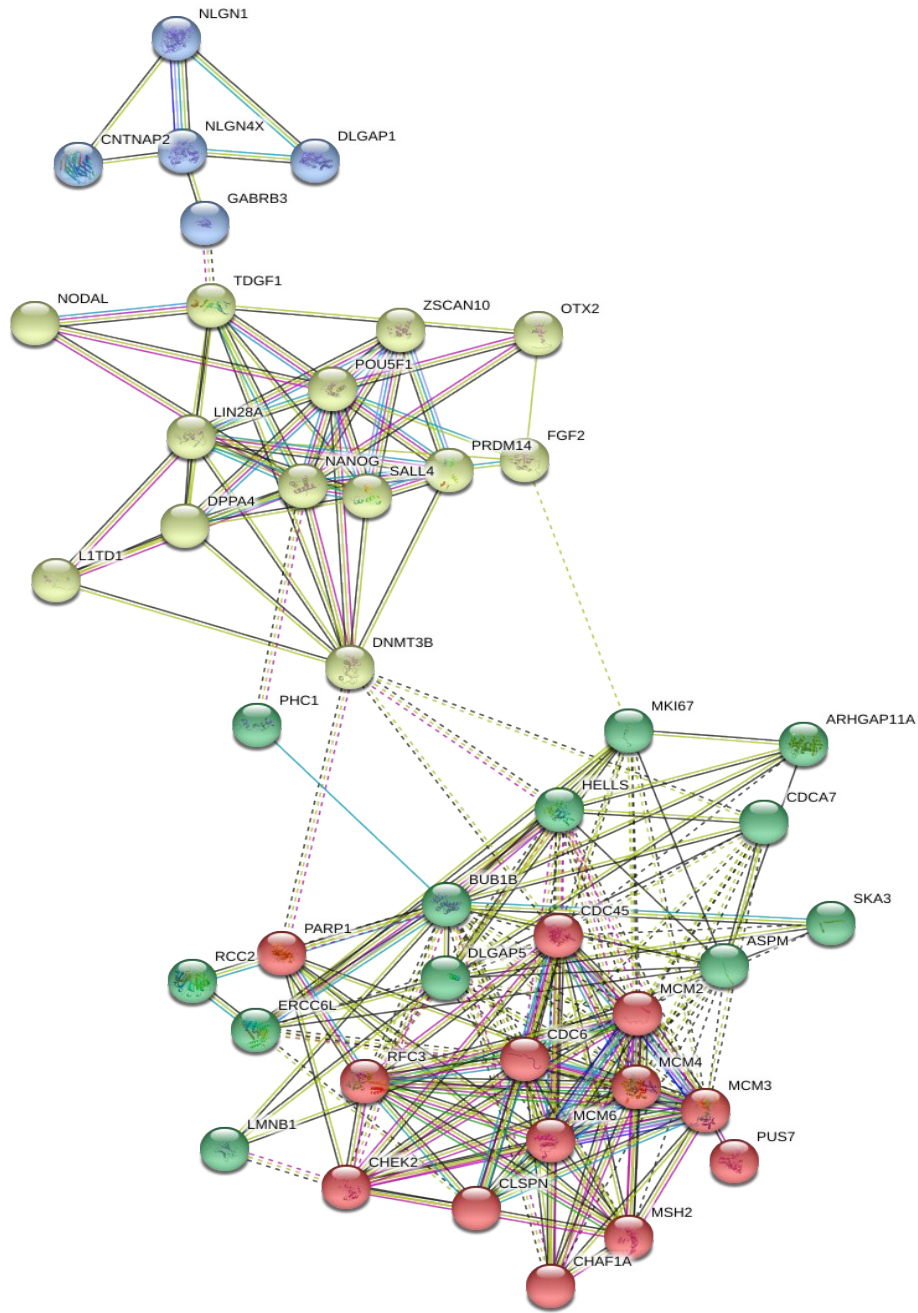
<b>Differentiation step</b>	<b>Days</b>	<b>Medium composition</b>	<b>Atmospheric composition</b>	<b>Protocol 1</b>
<b>S1 (definitive endoderm, DE)</b>	D1	RPMI-1640 / B27, Activin A (100 ng/mL)	37°C, 20% O <sub>2</sub> , 5% CO <sub>2</sub>	
	D2			
	D3			
	D4			
	D5			
<b>S2 (Early hepatocyte progenitor, Early_Pro)</b>	D1	RPMI-1640 / B27, FBF-2 (10 ng/mL), BMP4 (20 ng/mL)	37°C, 5% O <sub>2</sub> , 5% CO <sub>2</sub>	
	D2			
	D3			
	D4			
	D5			
<b>S3 (hepatocytes progenitor, Pro_Hep)</b>	D1	RPMI-1640 / B27, HGF (20 ng/mL)	37°C, 5% O <sub>2</sub> , 5% CO <sub>2</sub>	
	D2			
	D3			
	D4			
	D5			
<b>S4 (hepatocyte-like cell, Late_Hep)</b>	D1	Lonza HBM without hEGF, OSM (20 ng/mL)	37°C, 20% O <sub>2</sub> , 5% CO <sub>2</sub>	
	D2			
	D3			
	D4			
	D5			
	D6			
	D7			

**Supplementary table 2** : Primer list used for RTqPCR

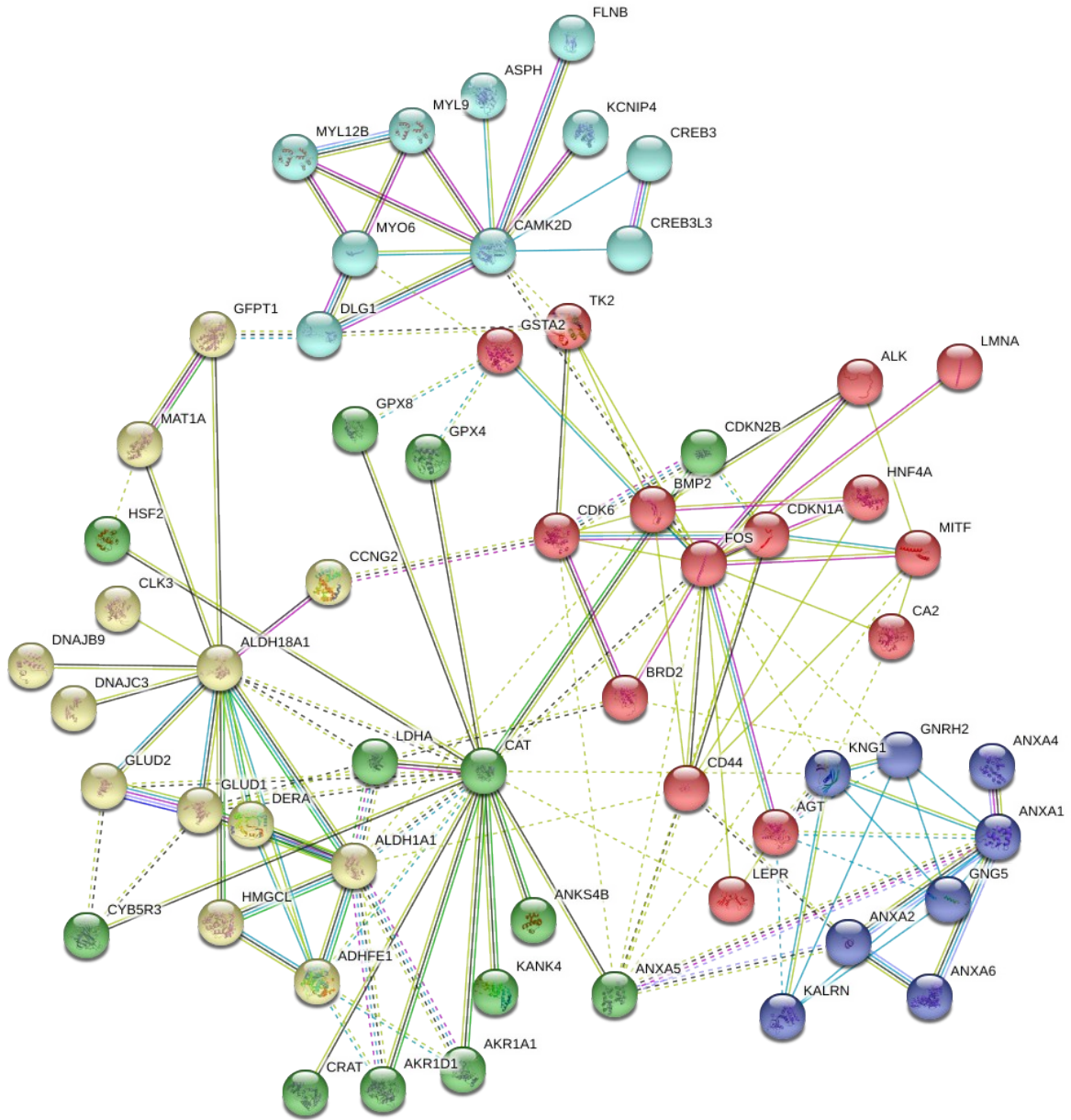
<b>Target</b>	<b>Primer</b>	<b>Sequence (5'-3')</b>
FOXA2	Fw	GGTGATTGCTGGTCGTTTGTGTTGTG
	Rv	GCCGACATGCTCATGTACGTGTT
HNF4a	Fw	CGTCATCGTTGCCAACACAAT
	Rv	GGGCCACTCACACATCTGTC
AFP	Fw	TGGGACCCGAACTTTCCA
	Rv	GGCCACATCCAGGACTAGTTTC
ALB	Fw	CCTGCTGACTTGCCTTCATTAG
	Rv	TGGCATAGCATTTCATGAGGA
OCT3/4	Fw	AGTGGGTGGAGGAAGCTGACAAC
	Rv	TCGTTGTGCATAGTCGCTGCTTGA
CDH1	Fw	GTGCTCTTCCAGGAACCTCT
	Rv	GGTGTTCACATCATCGTCCG
CDH2	Fw	CCATCATTGCCATCCTGCTC
	Rv	GTTTGGCCTGGCGTTCTTTA
SNAI1	Fw	AAGCCTAACTACAGCGAGCT
	Rv	GGCTGCTGGAAGGTAAACTC
SNAI2	Fw	AGCATTTC AACGCCTCCAAA
	Rv	TGGTTGTGGTATGACAGGCA
BMP4	Fw	CTGAGCCTTTCCAGCAAGTT
	Rv	TCAGCATTTCGGTTACCAGGA



**Supplementary Figure S1** : Network of the genes representing the iPSC cluster. Genes of the network are provided in supplementary file 3

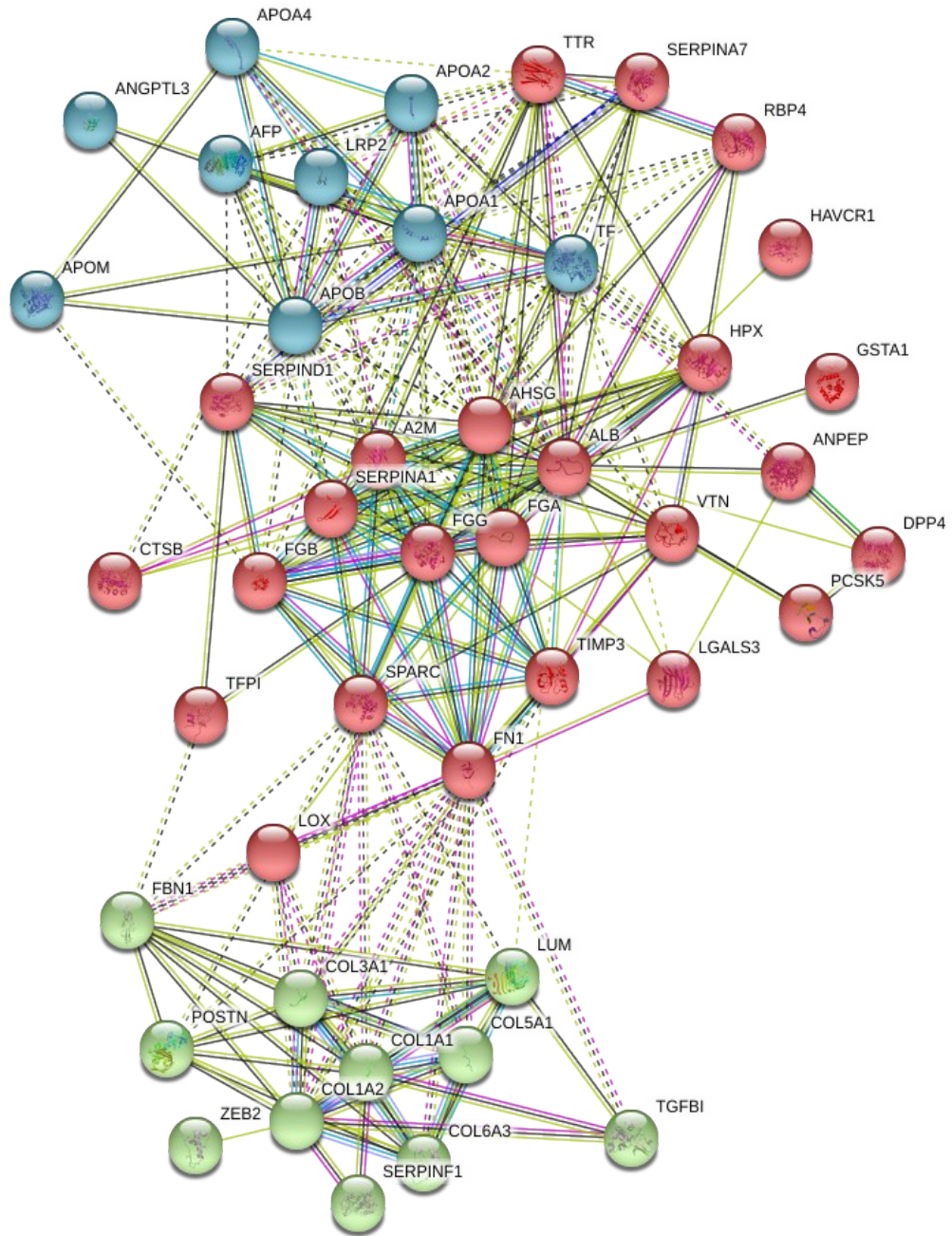


**Supplementary Figure S2:** Network of the genes representing the iPSC\_DE cluster. Genes of the network are provided in supplementary file 3



**Supplementary Figure S3:** Network of the genes representing the HE cluster. Genes of the network are provided in supplementary file 3





**Supplementary Figure S4:** Network of the genes representing the HE\_HLC cluster. Genes of the network are provided in supplementary file 3