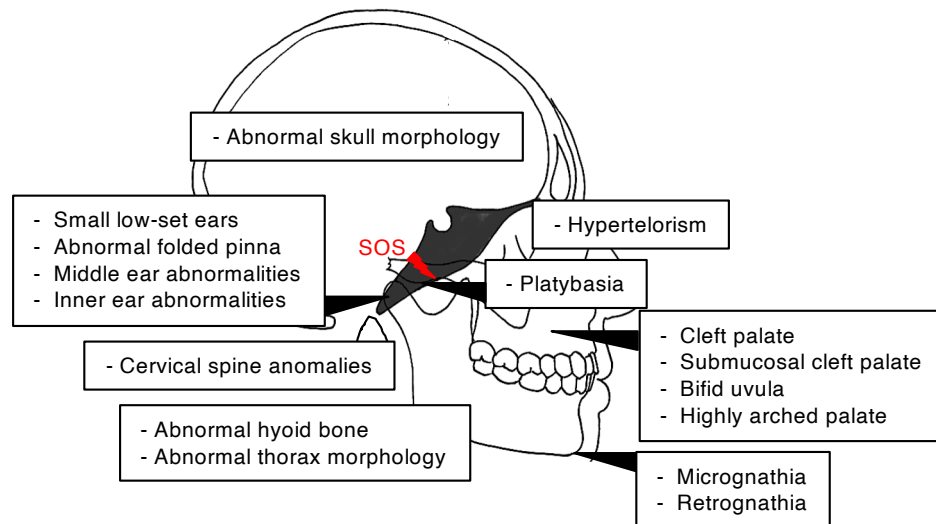


**Figure S1**



**Figure S1. Craniofacial and skeletal phenotypes of DGS/VCFS.**  
SOS, spheno-occipital synchondrosis.

**Figure S2**

**A**

Symbol	Description	Gene ID
<i>DGCR6</i>	DiGeorge syndrome critical region gene 6	8214
<i>PRODH</i>	proline dehydrogenase 1	5625
<i>DGCR2</i>	DiGeorge syndrome critical region gene 2	9993
<i>ESS2</i>	ess-2 splicing factor homolog	8220
<i>TSSK2</i>	testis specific serine kinase 2	23617
<i>GSC2</i>	goosecoid homeobox 2	2928
<i>FAM246C</i>	family with sequence similarity 246 member C	117134596
<i>SLC25A1</i>	solute carrier family 25 member 1	6576
<i>CLTCL1</i>	clathrin heavy chain like 1	8218
<i>UFD1</i>	ubiquitin recognition factor in ER associated degradation 1	7353
<i>HIRA</i>	histone cell cycle regulator	7290
<i>CDC45</i>	cell division cycle 45	8318
<i>MRPL40</i>	mitochondrial ribosomal protein L40	64976
<i>C22orf39</i>	chromosome 22 open reading frame 39	128977
<i>CLDN5</i>	claudin 5	7122
<i>TBX1</i>	T-box transcription factor 1	6899
<i>SEPTIN5</i>	septin 5	5413
<i>SEPT5-GP1BB</i>	SEPT5-GP1BB readthrough	100526833
<i>GP1BB</i>	glycoprotein Ib platelet subunit beta	2812
<i>GNB1L</i>	G protein subunit beta 1 like	54584
<i>RTL10</i>	retrotransposon Gag like 10	79680
<i>TXNRD2</i>	thioredoxin reductase 2	10587
<i>COMT</i>	catechol-O-methyltransferase	1312
<i>ARVCF</i>	ARVCF delta catenin family member	421
<i>TANGO2</i>	transport and golgi organization 2 homolog	128989
<i>TRMT2A</i>	tRNA methyltransferase 2 homolog A	27037
<i>RANBP1</i>	RAN binding protein 1	5902
<i>CCDC188</i>	coiled-coil domain containing 188	388849
<i>DGCR8</i>	DGCR8 microprocessor complex subunit	54487
<i>ZDHHC8</i>	zinc finger DHHC-type palmitoyltransferase 8	29801
<i>RTN4R</i>	reticulon 4 receptor	65078
<i>DGCR6L</i>	DiGeorge syndrome critical region gene 6 like	85359
<i>AC007326.13</i>	novel protein	

**B**

Category	ID	Name	Source	p-value	q-value Bonferroni	q-value FDR B&Y	Gene List
<b>Molecular Function</b>							
<b>Biological Process</b>	No results to display						
<b>Cellular Component</b>							
<b>Domain</b>	IPR010849	Gonadal	InterPro	7.43E-06	1.39E-03	4.04E-03	<i>DGCR6</i> , <i>DGCR6L</i>
	PF07324	DGCR6	Pfam	7.43E-06	1.39E-03	4.04E-03	<i>DGCR6</i> , <i>DGCR6L</i>
<b>Pathway</b>	M39787	22q11.2 copy number variation syndrome	MSigDB C2 BIOCARTA (v7.3)	1.28E-60	2.45E-58	1.43E-57	<i>TSSK2</i> , <i>RTL10</i> , <i>DGCR2</i> , <i>RANBP1</i> , <i>MRPL40</i> , <i>C22orf39</i> , <i>CLDN5</i> , <i>DGCR6</i> , <i>DGCR8</i> , <i>CLTCL1</i> , <i>TXNRD2</i> , <i>ESS2</i> , <i>TANGO2</i> , <i>TRMT2A</i> , <i>COMT</i> , <i>SEPTIN5</i> , <i>ARVCF</i> , <i>ZDHHC8</i> , <i>DGCR6L</i> , <i>GSC2</i> , <i>SLC25A1</i> , <i>TBX1</i> , <i>CCDC188</i> , <i>RTN4R</i> , <i>GNB1L</i> , <i>PRODH</i> , <i>UFD1</i> , <i>HIRA</i> , <i>GP1BB</i> , <i>CDC45</i>

**Figure S2. Human genes in the proximal deletion of 1.5-Mb on the 22q11.2 locus.**

**A.** Human genes in the proximal deletion of 1.5-Mb on the 22q11.2 locus.

**B.** Classification of human genes in the proximal deletion of 1.5-Mb. Gene set enrichment analysis was performed using the ToppGene Suite (<https://toppgene.cchmc.org>) with a Bonferroni corrected q-value cutoff of 0.05.