

## Supplementary Material

**Table S1. Windows of rare variants with statistically significant association with cleft type (CL vs. CLP).**

<b>Window Range</b>	<b>Population</b>	<b>Window Type</b>	<b>P-value</b>
1:18943576-18946340	Philippines	20 SNP	6.00E-04
1:18999691-19004690	Philippines	5 KB	6.00E-04
1:19000487-19002797	Philippines	20 SNP	4.00E-04
1:19002191-19007190	Philippines	5 KB	3.00E-04
1:19002383-19004086	Philippines	20 SNP	3.00E-04
1:19004691-19009690	Philippines	5 KB	9.00E-04
1:19005587-19007798	Philippines	20 SNP	5.00E-04
1:95007579-95012578	China	5 KB	2.00E-04
8:129790677-129793236	Philippines	20 SNP	8.00E-04
8:129790773-129795772	Philippines	5 KB	6.00E-04
8:129791975-129794554	Philippines	20 SNP	4.50E-04
8:130298273-130303272	Philippines	5 KB	1.00E-04
8:130300154-130302665	Philippines	20 SNP	2.50E-04
8:130300773-130305772	Philippines	5 KB	5.00E-04
9:100464682-100465908	China	20 SNP	2.00E-04
9:100487529-100492528	China	5 KB	3.00E-04
9:100680029-100685028	Philippines	5 KB	2.00E-04
9:100681080-100683520	Philippines	20 SNP	8.00E-04
10:118459030-118464029	Philippines	5 KB	7.00E-04
10:118653761-118655989	China	20 SNP	3.00E-04
10:118724030-118729029	Philippines	5 KB	6.00E-04
17:8998160-9001204	China	20 SNP	7.50E-04
17:9000016-9005015	China	5 KB	1.00E-04
17:9057516-9062515	China	5 KB	7.00E-04
17:54817004-54818659	China	20 SNP	8.00E-04

**Table S2. Windows of rare variants with statistically significant association with laterality (unilateral vs. bilateral).**

<b>Window Range</b>	<b>Population</b>	<b>Window Type</b>	<b>P-value</b>
1:94925079-94930078	Philippines	5 KB	6.00E-04
1:94925714-94928273	Philippines	20 SNP	4.00E-04
1:94927110-94929746	Philippines	20 SNP	9.00E-04
1:94981785-94983950	Philippines	20 SNP	4.50E-04
8:129515829-129517924	Philippines	20 SNP	7.00E-04
8:129557483-129559460	China	20 SNP	6.00E-04
8:129575655-129577099	China	20 SNP	1.00E-04
8:129576195-129578952	China	20 SNP	4.00E-04
8:129888186-129889673	China	20 SNP	< 0.0001
9:98133816-98138815	Philippines	5 KB	7.00E-04
9:98136401-98138871	Philippines	20 SNP	7.00E-04
9:98148816-98153815	China	5 KB	7.00E-04
9:98149174-98150718	China	20 SNP	1.00E-04
17:9234571-9236098	China	20 SNP	6.50E-04
17:54567773-54572772	China	5 KB	1.00E-04
20:39260700-39265699	China	5 KB	3.00E-04
20:39264089-39265758	China	20 SNP	1.00E-04

**Table S3. Windows of rare variants with statistically significant association with sex (male vs. female).**

<b>Window Range</b>	<b>Population</b>	<b>Window Type</b>	<b>P-value</b>
1:19198100-19199678	Philippines	20 SNP	2.00E-04
1:19199721-19200817	Philippines	20 SNP	7.00E-04
1:94327579-94332578	China	5 KB	5.00E-04
1:94328844-94331028	China	20 SNP	5.00E-05
1:94342579-94347578	China	5 KB	9.00E-04
1:94385079-94390078	China	5 KB	8.00E-04
4:4876429-4878242	China	20 SNP	9.50E-04
8:130028642-130030604	China	20 SNP	3.50E-04
9:100697529-100702528	Philippines	5 KB	9.00E-04
9:100697713-100700826	Philippines	20 SNP	9.00E-04
10:118541530-118546529	Philippines	5 KB	3.00E-04
10:118596325-118598622	Philippines	20 SNP	4.00E-04
10:118624030-118629029	Philippines	5 KB	5.00E-04
10:118625260-118628030	Philippines	20 SNP	7.00E-04
10:118638519-118640461	Philippines	20 SNP	1.00E-04
10:118639030-118644029	Philippines	5 KB	2.00E-04
10:118639485-118641706	Philippines	20 SNP	< 0.0001
10:118851530-118856529	Philippines	5 KB	2.00E-04
10:118854083-118856514	Philippines	20 SNP	0.00E+00
10:118854900-118857525	Philippines	20 SNP	1.00E-04
10:123368869-123373868	Philippines	5 KB	3.00E-04
10:123479803-123483275	Philippines	20 SNP	8.00E-04
17:54615714-54618317	China	20 SNP	6.00E-04
17:54766942-54767309	Philippines	20 SNP	9.50E-04
17:54811309-54812853	Philippines	20 SNP	4.00E-04
20:39291288-39293331	China	20 SNP	9.00E-04
20:39444857-39446029	China	20 SNP	1.00E-04
20:39445740-39446718	China	20 SNP	6.00E-04

**Table S4. Windows of rare variants with statistically significant association with side (unilateral left vs. unilateral right).**

<b>Window Range</b>	<b>Population</b>	<b>Window Type</b>	<b>P-value</b>
1:19044691-19049690	Philippines	5 KB	3.00E-04
1:19044786-19046526	Philippines	20 SNP	2.50E-04
1:94745898-94747471	China	20 SNP	8.00E-04
1:94860079-94865078	Philippines	5 KB	7.00E-04
1:94861794-94864557	Philippines	20 SNP	5.00E-04
9:98306107-98308002	Philippines	20 SNP	6.50E-04
9:100631558-100633036	Philippines	20 SNP	5.00E-04
9:100652529-100657528	China	5 KB	9.00E-04
10:123431369-123436368	Philippines	5 KB	6.00E-04
17:54567379-54569266	Philippines	20 SNP	2.00E-04
17:54567773-54572772	Philippines	5 KB	6.00E-04
17:54568409-54570881	Philippines	20 SNP	4.00E-04
20:39231214-39232819	Philippines	20 SNP	7.00E-04

**Table S5. Modifier association results for laterality (unilateral vs. bilateral) and Transmission/Disequilibrium Test (TDT) results for NSCL/P for variants within *IRF6*.**

CHR	SNP	BP	Minor Allele	Major Allele	OR (modifier)	P-value (modifier)	OR (TDT)	P (TDT)
1	rs4844895	209958580	C	T	0.6869	8.32E-04	0.6541	2.34E-10
1	rs2235372	209960436	A	G	0.6753	6.46E-04	0.6558	9.56E-10
1	rs742214	209960925	C	T	0.6899	9.13E-04	0.6697	1.78E-09
1	rs742215	209961023	A	T	0.6896	9.06E-04	0.6721	2.56E-09
1	rs2073485	209962794	A	G	0.6891	8.89E-04	0.6697	1.97E-09
1	rs2235373	209963803	A	G	0.6766	5.18E-04	0.6613	5.96E-10
1	rs2235375	209965587	C	G	0.691	5.91E-04	0.6912	1.44E-08
1	rs6685182	209968319	A	C	0.698	8.31E-04	0.6973	3.35E-08
1	rs2013162	209968684	A	C	0.6869	4.84E-04	0.6954	2.48E-08
1	rs2236907	209971628	A	C	0.6947	7.18E-04	0.6991	4.10E-08
1	rs2236908	209971640	C	G	0.6872	5.07E-04	0.6907	1.39E-08
1	rs2236909	209971655	G	A	0.6917	6.15E-04	0.6972	3.03E-08
1	rs2294408	209973549	A	G	0.7005	9.52E-04	0.6943	2.32E-08
1	rs2073486	209976215	A	G	0.6837	4.22E-04	0.6872	9.20E-09
1	rs2073487	209976646	C	T	0.6776	3.07E-04	0.6942	2.09E-08
1	rs17015250	209978777	G	T	0.6887	5.19E-04	0.6888	1.02E-08
1	rs12403599	209979014	C	G	0.6895	5.52E-04	0.6831	5.83E-09
1	rs7545538	209979613	G	C	0.6832	4.16E-04	0.6912	3.05E-08
1	rs7545542	209979635	T	C	0.6744	2.75E-04	0.6774	3.63E-09
1	rs2357229	209980489	T	G	0.6801	3.85E-04	0.6798	5.18E-09
1	rs1005287	209980757	A	G	0.6928	6.48E-04	0.6849	7.20E-09
1	rs6540559	209982025	A	G	0.6572	2.17E-04	0.6606	7.01E-10
1	rs6696825	209982372	G	A	0.6715	3.80E-04	0.6679	1.42E-09
1	rs6659367	209982408	T	G	0.6649	3.00E-04	0.6667	1.97E-09
1	rs764093	209983331	G	A	0.6765	4.77E-04	0.6631	6.77E-10
1	rs12070337	209992127	A	G	0.6901	8.82E-04	0.6679	1.42E-09