



Figure S1. Schematic representation of the variant filtering procedure.

*The variant counts at each stage of filtering are summed over two patients. The overlapping circles at the bottom (21 variants) are a Venn diagram of the relationship between variants passing the involvement and the association filter, and those passing the SIFT filter.

Table S1: Primer sequences used in mutation analysis of *NF1*

Primer ID		Sequence(5'–3')
Primer(A1)	Forward	CTTCCTACTCCTTTTGGGT
	Reverse	TCCAAGCCTAAAATGAAG
Primer(A2)	Forward	TCCTGTGAGGTTAGTGAAAGGAA
	Reverse	TCAGCTACAGCCAAGTTTCAA
Primer(A3)	Forward	GGTTTTTACATAGTGT CAGC
	Reverse	CTTTGTT CATTGCCTGGTAT
Primer(A4)	Forward	ATCCTCCTCCCTTAGCCTC
	Reverse	CTCCTCGTTC CATTCTGC
Primer(A5)	Forward	AGCCCAGACCAA ACTAGAA
	Reverse	ATGTGCTTTGAGGCAGACT

Table S2: Primer sequences used in mutation analysis of *BCOR*

Primer ID		Sequence(5'–3')
Primer1	Forward	TGTGGTGTGCCCTGAATGT
	Reverse	GGTGGCTGTGAGAAGTTGAG
Primer2	Forward	GGGGCGGAGGGTTAAGGA
	Reverse	TGGCGAGGCAGGAAGGCAA
Primer3	Forward	GTAAAGGCTGATGGCATGT
	Reverse	GAGGGCTCTGTTTGTCTGCT
Primer4	Forward	CACTGAGCATGGACCGCAC
	Reverse	GTGGACTCGGGGTGACGG
Primer5	Forward	GCCATCCCGCCTCTCGTC
	Reverse	CACCCAGGATGAGGGAGCAG
Primer6	Forward	TGTTGGAGAAGCAGACCGTT
	Reverse	GCTGGGTAAGGGAGGTAAGTC
Primer7	Forward	GAAACCACACCATCCGTTAT
	Reverse	AACACTGTCCTTGCTTACGGT
Primer8	Forward	AACTTATACTTTCAAACAGC
	Reverse	TAGATACCCTTCACAATAAT
Primer9	Forward	ATTGCTTTGATTTCTCTGCCT
	Reverse	CAAACCAACCACAGCTTATG
Primer10	Forward	CATAAGCTGTGGTTGGTTTT
	Reverse	AACTATCTTTCACAGACGCCT
Primer11	Forward	TTGCCACTCGTCTTCAATGT
	Reverse	CTTCCCCTCACCGACTCTGT
Primer12	Forward	CATTAGTGATGCGTAAGACA
	Reverse	AAGGACATCAAGAGAGAACT
Primer13	Forward	TGCCGTTTGAATGTGGTAT
	Reverse	GGGAAGGGATTTCATTCTTAC
Primer14	Forward	AAAGATAAGGAATAAAGTGCC
	Reverse	GTGGGGCTAACACAAACAT
Primer15	Forward	CCTCACCAAGACATCCACA
	Reverse	AACCACCACCGCACAGATA
Primer16	Forward	CCCGCAAAAAAAGGATAGA
	Reverse	AAACTCTCGGCTGCTCTCC
Primer17	Forward	TCTGCCATCATTTTGTCTC
	Reverse	CTAATGGAGGGCAAATAAGA
Primer18	Forward	CTTGGGACTTCTATGGCAGC
	Reverse	CATTGTGTGAGGTTTCGTGGA
Primer19	Forward	AGGTATGGTGAGAAATGAGG
	Reverse	TGACACATATGCACAAGGAT

Table S3: Primer sequences used in mutation analysis of *PTPN11*

Primer ID		Sequence(5'—3')
Primer1	Forward	GGATGCTTTGGACACTGTGC
	Reverse	GGGAGGCAGGAAATGAATGG
Primer2	Forward	TTGACCAAGGAGAAGAGGGG
	Reverse	GGCCTTCAAACCTCGAAATGC
Primer3	Forward	TGAGTTGGTTGACATGTGGT
	Reverse	AGCCTTTGGAGTCAGAGAGT
Primer4	Forward	TCTCTAAAGGACTGTGGACTCA
	Reverse	CCCATCTGTAGGTGATAGAGCA
Primer5	Forward	TGCAGTGAACATGAGAGTGC
	Reverse	CTGTCTACCTCTGTATGTTTGCA
Primer6	Forward	TATGAACCCTCTGTCCGTGC
	Reverse	TGCTCCGTGTCAATCAATGG
Primer7	Forward	CAGGTGTAAGCCATCACGC
	Reverse	TAATCAGCATCACGGGAGCT
Primer8	Forward	TTGGACTAGGCTGGGGAGTA
	Reverse	AACACCATCCGCCAAAAGTC
Primer9	Forward	GGGTTGTCCTACACGATGGT
	Reverse	ACAAATCCATGGAGCCAAGA
Primer10	Forward	CAGATGCGAAACAGGCCATT
	Reverse	CGATGAGGGCAGGAACACTA
Primer11	Forward	GAACCTGGGGAGATTCTCTTC
	Reverse	GAGCTAGGAGTGGGTAGGTAAA
Primer12	Forward	AGGCACGTTGTACTGGAGAA
	Reverse	TCAACCTCTCTTCCCCAGAC
Primer13	Forward	GGGAATCCTGACTTCTGCCA
	Reverse	GGAGTTTGTTCCTCCATTCCGA
Primer14	Forward	GGTGAATCCCCTAACAATTTGGT
	Reverse	GAACGTGCACCAGTGAAAGG
Primer15	Forward	GGAATGTCAGGTCTAGGCA
	Reverse	TAAGTGCTAGCCTTGCCCTCA