Supporting Information

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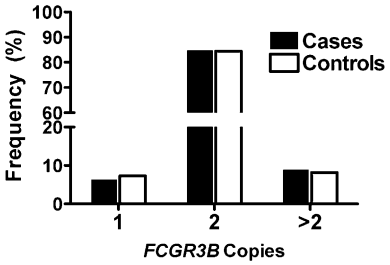

Fig. S1. Copy number variation at FCGR3B is not different between patients with Granulomatosis with Polyangiitis (Wegener's) (GPA) and healthy controls. A null allele at the FCGR3B locus has been associated with susceptibility to GPA (1, 2); however, this finding has not been replicated among all studies (3). Presence of this structural variant could complicate comparisons of the frequency of NA1/NA2 alleles between our case and control groups. Therefore, we sought to determine if copy number variation (CNV) at *FCGR3B* would differ between patients and controls and found the same levels of variation. Using a quantitative Pyrosequencing approach, we have determined the relative copy number of *FCGR3B* (relative to *FCGR3A*). In brief, we have used primers (Foward: TCCACCTGGGTACCAAGTCTCT; Reverse: TTGAGGGTCCTTTCTCCATT- TAA) that intentionally amplify a genomic region including exon 5 of both *FCGR3A* and *FCGR3B* in 460 Caucasian patients with GPA and 562 Caucasian healthy controls by quantitative Pyrosequencing. This region contains a single nucleotide difference between the genes. The relative levels of each gene were then determined on the PSQ96HA (Qiagen) through quantitation of the single nucleotide that differs between the genes (Pyrosequencing primer: TCTCTGTGAAGACAAACATT). In our Caucasian population of patients with GPA and healthy controls, we did not detect any individuals homozygous for the *FCGR3B* deletion. As shown in the figure, we did observe both *FCGR3B* deletion (i.e., one copy of the gene) and *FCGR3B* duplication; the frequency of this CNV did not differ between cases and controls ($\chi^2 = 0.52$, $P = 0.770$). We recognize that a small proportion of our population may also express CNV at the *FCGR3A* locus. However, the frequency of this CNV is quite low in Caucasian populations (3), and frequencies of *FCGR3B* deletion/duplication in our healthy control population (7.3%/8.2% respectively) are consistent with prior determinations using paralogue ratio tests (3).

1. Fanciulli M, et al. (2007) FCGR3B copy number variation is associated with susceptibility to systemic, but not organ-specific, autoimmunity. *Nat Genet* 39:721–723.
2. Aitman TJ, et al. (2006) Copy number polymorphism in Fcgr3 predisposes to glomerulonephritis in rats and humans. *Nature* 439:851–855.
3. Niederer HA, et al. (2010) Copy number, linkage disequilibrium and disease association in the *FCGR* locus. *Hum Mol Genet* 19:3282–3294.

Table S1. Mucosal, cutaneous, and renal manifestations are observed in patients with GPA enrolled in Wegener's Granulomatosis Genetics Repository

Criteria or involvement	Disease manifestation	Percentage of patients (%)
ACR Criteria	Nasal or oral inflammation	84.8
	Active urinary sediment	53.2
	Abnormal chest X-ray	69.2
	Granulomatous inflammation	70.6
Mucosal involvement (upper respiratory tract)	Sinus involvement	77.8
	Nasal crusting/bleeding ulcer	71.9
	Nasal septal perforation	11.9
	Subglottic stenosis	11.1
	Oral ulcers/gingivitis	10.3
	Saddle nose	9.2
Cutaneous involvement	Cutaneous vasculitis	31.7
Renal involvement	Hematuria	54.9
	Elevated serum creatinine	42.7
	End-stage renal disease	11.5

These data are from physician-completed chart reviews on 477 patients enrolled in WGGER. Presence of a manifestation was considered if "ever present" in the medical record and not explainable by a non-GPA cause. ACR, American College of Rheumatology; Wegener's Granulomatosis Genetics Repository, WGGER.

Table S2. Mucosal, cutaneous, and renal manifestations are observed in patients with GPA enrolled in Vasculitis Clinical Research Consortium

Disease manifestation	Percentage of patients (%)
Ear/nose/throat involvement	84.7
Renal involvement	53.8
Elevated serum creatinine	52.6
Patient required dialysis	14.7
Skin involvement	33.2

These data are from physician-completed chart reviews on 263 Wegener's granulomatosis patients enrolled in Vasculitis Clinical Research Consortium. Presence of a manifestation was considered if "ever present" in the medical record without other identifiable non-GPA cause.