

### Supplementary Table 1

Summary of genes identified from recent genetic association studies of CIPN.

Drug	Genes	Biological Pathways	Reference
Oxaliplatin	<i>FOXC1, ITGA1, TAC1</i>	Neuron development and extension, pain neurotransmitters	<i>Won et al. (2012)</i>
Paclitaxel	<i>EPHA5, FZD3, FGD4</i>	Neuron development and cytoskeletal formation	<i>Baldwin et al. (2012)</i>
	<i>EPHA4, EPHA6, EPHA5</i>	Regulation of neurite outgrowth	<i>Leandro-García, et al. (2013)</i>
	<i>EPHA5</i>		<i>Boora et al. (2016)</i>
	<i>ARHGEF10, FGD4</i>	Neuron morphogenesis	<i>Beutler et al. (2014)</i>
Docetaxel	<i>VAC14</i>	Neurodegeneration	<i>Hertz et al. (2016)</i>
Vincristine	<i>CEP72</i>	Microtubule formation	<i>Diouf et al. (2015)</i>
Bortezomib	<i>ALOX12, CASP9</i>	Apoptosis	<i>Broyl et al. (2010)</i>
	<i>CTLA4</i>	Inflammation	<i>Favis et al. (2011)</i>

### REFERENCES

1. Won, H. H. et al. Polymorphic markers associated with severe oxaliplatin-induced, chronic peripheral neuropathy in colon cancer patients. *Cancer* **118**, 2828–2836 (2012).
2. Baldwin, R. M. et al. A genome-wide association study identifies novel loci for paclitaxel-induced sensory peripheral neuropathy in CALGB 40101. *Clin. Cancer Res.* **18**, 5099–5109 (2012).
3. Leandro-García, L. J. et al. Genome-wide association study identifies ephrin type A receptors implicated in paclitaxel induced peripheral sensory neuropathy. *J. Med. Genet.* **50**, 599–605 (2013).
4. Boora, G. K. et al. Testing of candidate single nucleotide variants associated with paclitaxel neuropathy in the trial NCCTG N08C1 (Alliance). *Cancer Med.* **5**, 631–639 (2016).
5. Hertz, D. L. et al. Pharmacogenetic Discovery in CALGB ( Alliance ) 90401 and Mechanistic Validation of a VAC14 Polymorphism that Increases Risk of Docetaxel-Induced Neuropathy. 1–11 (2016).doi:10.1158/1078-0432.CCR-15-2823.

6. Diouf, B. *et al.* Association of an Inherited Genetic Variant With Vincristine-Related Peripheral Neuropathy in Children With Acute Lymphoblastic Leukemia. *Jama* **313**, 815 (2015).
7. Beutler, A. S. *et al.* Sequencing of Charcot-Marie-Tooth disease genes in a toxic polyneuropathy. *Ann. Neurol.* **76**, 727–37 (2014).
8. Broyl, A. *et al.* Mechanisms of peripheral neuropathy associated with bortezomib and vincristine in patients with newly diagnosed multiple myeloma: a prospective analysis of data from the HOVON-65/GMMG-HD4 trial. *Lancet Oncol.* **11**, 1057–1065 (2010).
9. Favis, R. *et al.* Genetic variation associated with bortezomib-induced peripheral neuropathy. *Pharmacogenet. Genomics* **21**, 121–9 (2011).