

**Supplemental Table 1 – Mutations found at ABCD1 gene in the present X-ALD heterozygote women, and the distribution of ages at examination and at onset of symptoms.**

Mutations (exon)	Number of women  Total (asymptomatic women, when present)	Age at examination  median $\pm$ dp (variation), when possible	Age at onset of symptoms
	33 (4)	41.2 $\pm$ 11.9	39.4 $\pm$ 10 (21-59)
p.Ala232fsX64, family 21 (Exon 2)	1	24	22
p.Gly266Arg, family 12 (Exon 2)	2	25 and 47	21 and 42
p.Tyr296Cys, family 24 (Exon 2)	2	43 and 44	38 and 42
p.Trp326X, family 6 (Exon 2)	2	25 and 50	24 and 43
p.Ser358X, family 37 (Exon 2)	1	36	33
p.Arg401Trp, family 32 (Exon 3)	1	48	45
p.Arg401Gly, family 52 (Exon 3)	1	35	34
p.Arg401Trp, family 58 (Exon 3)	1	40	39
p.Gly512Ser, family 1 (Exon 6)	2 (1)	52	46
p.Arg518Gln, family 10 (Exon 6)	7	44.6 $\pm$ 8 (32-55)	36.7 $\pm$ 7 (26-44)
p.Glu577X, family 8 (Exon 7)	2 (1)	55	50
p.Trp601X, family 3 (Exon 8)	1 (1)		?
p.Ser606Leu, family 2 (Exon 8)	2 (1)	49	43
p.Arg617His, family 4 (Exon 8)	5	48 $\pm$ 12 (27-56)	45 $\pm$ 11 (26-55)
p.Leu628Glu,	1	45	41

family 27 (Exon 9)			
p.Trp679X, family 23 (Exon 10)	2	41 and 61	39 and 59