

**Supplementary Table S1.** Clinical Data of patients involved in the study

Phenotype	S1	S2	S3	S4	S5
Sex	F	F	M	F	M
Age	13	49	25	19	70
Family history	+	+	+	-	+
The Five-Point Questionnaire 5PQ [1]	+	+	+	+	+
Beighton Score	6/9	6/9	7/9	7/9	6/9
Mucocutaneous					
Unusually soft or velvety skin	+	+	+	+	+
Mild skin hyperextensibility	+	-	+	+	-
Unexplained striae	-	-	-	-	-
Bilateral piezogenic papules of the heel	-	-	+	+	-
Recurrent or multiple abdominal hernia(s)	-	+	-	-	-
Atrophic scarring	-	-	+	-	-
Pelvic floor, rectal, and/or uterine prolapse	-	-	-	-	-
Marfanoid features					
Dental crowding and high or narrow palate	-	-	-	-	+
Mitral valve prolapse	-	-	-	-	-
Arm span-to-height ratio $\geq 1.05$	+	+	-	-	-
Arachnodactyly	-	+	-	+	-
Aortic root dilatation with Z-score $>+2$	-	-	-	-	-
Musculoskeletal					
Musculoskeletal pain	+	+	-	+	+
Chronic widespread pain	-	-	-	-	-
Recurrent joint dislocations	-	-	+	+	-
frank joint instability	-	+	+	+	+
Mild scoliosis	-	-	-		+
Flat foot	+	-	+	-	+
Genu o cubitus valgus	+	+	+	+	+
Gastrointestinal					
Gastroesophageal reflux	-	-	-	+	+
Defecatory dysfunction	-	-	+	+	-
Neuropsychiatric					
Impaired memory and concentration	-	-	-	+	-
Cardiovascular dysautonomia	+	-	+	+	+
Anxiety	-	-	-	+	-
Proprioception dysfunction	-	-	+	+	+
Allergies					
Rhinitis	-	-	+	-	+
Atopic dermatitis	-	-	+	+	-
Ocular					
Myopia	-	-	-	+	+