

## Gene panel information

|                 |                                    |
|-----------------|------------------------------------|
| Gene panel      | Cutis Laxa                         |
| Version         | 1                                  |
| Total genes     | 19                                 |
| Activation date | Wednesday 21 december 2022         |
| Publisher       | Center for Medical Genetics, Ghent |

## Genes

| Gene     | % at least 20 x covered* | OMIM gene id | OMIM Phenotypes                                                                                                                                                                                                                                                                                         |
|----------|--------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALDH18A1 | 99.91 %                  | 138250       | Spastic paraplegia 9A, autosomal dominant, 601162 (3), Autosomal dominant; Cutis laxa, autosomal recessive, type IIIA, 219150 (3), Autosomal recessive; Spastic paraplegia 9B, autosomal recessive, 616586 (3), Autosomal recessive; Cutis laxa, autosomal dominant 3, 616603 (3), Autosomal dominant   |
| ATP6V0A2 | 99.77 %                  | 611716       | Wrinkly skin syndrome, 278250 (3), Autosomal recessive; Cutis laxa, autosomal recessive, type IIA, 219200 (3), Autosomal recessive                                                                                                                                                                      |
| ATP6V1A  | 99.41 %                  | 607027       | Cutis laxa, autosomal recessive, type IID, 617403 (3), Autosomal recessive; Developmental and epileptic encephalopathy 93, 618012 (3), Autosomal dominant                                                                                                                                               |
| ATP6V1E1 | 99.83 %                  | 108746       | Cutis laxa, autosomal recessive, type IIC, 617402 (3), Autosomal recessive                                                                                                                                                                                                                              |
| ATP7A    | 99.79 %                  | 300011       | Occipital horn syndrome, 304150 (3), X-linked recessive; Neuronopathy, distal hereditary motor, X-linked, 300489 (3), X-linked recessive; Menkes disease, 309400 (3), X-linked recessive                                                                                                                |
| COG7     | 98.84 %                  | 606978       | Congenital disorder of glycosylation, type IIe, 608779 (3), Autosomal recessive                                                                                                                                                                                                                         |
| EFEMP1   | 99.4 %                   | 601548       | Doyne honeycomb degeneration of retina, 126600 (3), Autosomal dominant; Cutis laxa, autosomal recessive, type ID, 620780 (3), Autosomal recessive; Glaucoma 1, open angle, H, 611276 (3), Autosomal dominant                                                                                            |
| EFEMP2   | 99.7 %                   | 604633       | Cutis laxa, autosomal recessive, type IB, 614437 (3), Autosomal recessive                                                                                                                                                                                                                               |
| ELN      | 98.97 %                  | 130160       | Cutis laxa, autosomal dominant, 123700 (3), Autosomal dominant; Supravalvular aortic stenosis, 185500 (3), Autosomal dominant                                                                                                                                                                           |
| EMILIN1  | 99.81 %                  | 130660       | Neuronopathy, distal hereditary motor, autosomal dominant 10, 620080 (3), Autosomal dominant; Arterial tortuosity-bone fragility syndrome, 620908 (3), Autosomal recessive                                                                                                                              |
| FBLN5    | 99.73 %                  | 604580       | Cutis laxa, autosomal recessive, type IA, 219100 (3), Autosomal recessive; Charcot-Marie-Tooth disease, demyelinating, type 1H, 619764 (3), Autosomal dominant; Macular degeneration, age-related, 3, 608895 (3), Autosomal dominant; ?Cutis laxa, autosomal dominant 2, 614434 (3), Autosomal dominant |
| GORAB    | 99.51 %                  | 607983       | Geroderma osteodysplasticum, 231070 (3), Autosomal recessive                                                                                                                                                                                                                                            |
| LOX      | 99.8 %                   | 153455       | Aortic aneurysm, familial thoracic 10, 617168 (3), Autosomal dominant                                                                                                                                                                                                                                   |
| LTBP1    | 99.63 %                  | 150390       | Cutis laxa, autosomal recessive, type IIE, 619451 (3), Autosomal recessive                                                                                                                                                                                                                              |
| LTBP4    | 99.61 %                  | 604710       | Cutis laxa, autosomal recessive, type IC, 613177 (3), Autosomal recessive                                                                                                                                                                                                                               |
| NAA10    | 99.94 %                  | 300013       | Microphthalmia, syndromic 1, 309800 (3), X-linked; Ogden syndrome, 300855 (3), X-linked dominant, X-linked recessive                                                                                                                                                                                    |
| PYCR1    | 99.75 %                  | 179035       | Cutis laxa, autosomal recessive, type IIIB, 614438 (3), Autosomal recessive; Cutis laxa, autosomal recessive, type IIB, 612940 (3), Autosomal recessive                                                                                                                                                 |
| RIN2     | 99.88 %                  | 610222       | Macrocephaly, alopecia, cutis laxa, and scoliosis, 613075 (3), Autosomal recessive                                                                                                                                                                                                                      |
| TALDO1   | 99.87 %                  | 602063       | Transaldolase deficiency, 606003 (3), Autosomal recessive                                                                                                                                                                                                                                               |

## Explanation

OMIM release used for OMIM disease identifiers and descriptions: **2025-11-12**

Gene symbols used are according to the HGNC guidelines (corresponding to Ensembl database release 105).

Each Phenotype is followed by its MIM number, phenotype mapping key and inheritance pattern.

Possible phenotype mapping keys

- (1) the disorder is placed on the map based on its association with a gene, but the underlying defect is not known
- (2) the disorder has been placed on the map by linkage; no mutation has been found
- (3) the molecular basis for the disorder is known; a mutation has been found in the gene
- (4) a contiguous gene deletion or duplication syndrome, multiple genes are deleted or duplicated causing the phenotype

Brackets, "[ ]", indicate "nondiseases," mainly genetic variations that lead to apparently abnormal laboratory test values (e.g., dysalbuminemic euthyroidal hyperthyroxinemia).

Braces, "{ }", indicate mutations that contribute to susceptibility to multifactorial disorders (e.g., diabetes, asthma) or to susceptibility to infection (e.g., malaria).

A question mark, "?", before the phenotype name indicates that the relationship between the phenotype and gene is provisional. More details about this relationship are provided in the comment field of the map and in the gene and phenotype OMIM entries.

\* The column '% at least 20 x covered' shows the percentage of the coding sequence (+/-20 nucleotides of the flanking introns) of that gene that is on average at least 20 x covered. This according to the experience with exome sequencing in our laboratory and based on the current method.