

Lymphedema with Hypotrichosis and Telangiectasia via *SOX18* Gene Sequencing -- Test #283

Brief Description of Disorder: Lymphedema with Hypotrichosis and Telangiectasia (OMIM 607823) is a rare disorder characterized by these three clinical features (Irrthum et al Am J Hum Genet 72:1470-1478, 2003). Lymphedema, a chronic swelling of the extremities due to impairment in lymph drainage, was present in the legs of patients or was more generalized. Onset of lymphedema was birth to puberty. Hypotrichosis (sparse hair) was present at birth or developed in infancy. Hypotrichosis included absence of eyebrows and eyelashes. Telangiectasia (abnormal dilation of blood vessels leading to focal red lesions) was present on palms, soles, scalp and legs.

Genetics: Lymphedema with Hypotrichosis and Telangiectasia was reported to exhibit both autosomal recessive and autosomal dominant inheritance (Irrthum et al. 2003). Affected offspring of consanguineous matings had homozygous missense mutations in the *SOX18* gene (Asp104Pro and Trp95Arg). Affected children from the single reported dominant family had a *de novo* nonsense mutation (Cys240Stop). *SOX18* encodes a transcription factor. In mice, *SOX18* mutations affect development of fur and lymph vessels (Francois et al. Nature 456:643-647, 2008).

Description of This Particular Test: This test involves bidirectional DNA sequencing of both coding exons of the *SOX18* gene. The full coding region of each exon plus ~50 bp of flanking non-coding DNA on either side are sequenced. We will also perform sequencing of any single or pair of exons for family members of patients with known mutations and to confirm research results (\$190-340).

Reference Sequences: Genomic: NC_000020.9 mRNA and protein: CCDS 13552.1

Indications for Test: Patients who have clinical features of Lymphedema with Hypotrichosis and Telangiectasia are candidates for this test. Testing may also be considered for patients with other forms of lymphedema who lack mutations in the *FOXC2* and *FLT4* genes.

Sensitivity of Test: Sensitivity of this test is unknown.

Turn Around Time: Maximum of 40 days.

Specimen Requirements: See page 4 of the Requisition Form.

Price: Sequencing of *SOX18* Gene, Exons 1-2 \$ 490

CPT Codes:

Sample Ascertainment	83890 \$ 30	DNA Isolation	83891 \$ 40
Amplification x6	83898 \$ 120	Sequencing x6	83904 \$ 180
Separation	83894 \$ 40	Interpretation/Report	83912 \$ 80

Accreditation Info. CLIA ID #: 52D1027685 (expires 1/18/13) (CAP#: 7185561, AU ID: 1407125 expires 12/20/12)

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