

## Supplementary material

### MiniSeq preparation protocol

95 °C 3 minutes  
 95 °C 30 seconds  
 60 °C 30 seconds  
 72 °C 30 seconds  
 72 °C 5 minutes

} 40 cycles

### Primers for amplification of *ALG8* exons (NM\_024079.5)

Exon & direction	Primer
1-F	GTAATCGGGAAGCTGAAGCGGCTTCAGAGGGCTTTCT
1-R	GATCCGACGGTAGTGTATCCACACCTTTCTCTCCCG
2-F	GTAATCGGGAAGCTGAAGCTGTGACAGCTTAGGGAATGT
2-R	GATCCGACGGTAGTGTACCCAGCCAGAAAACATTT
3-F	GTAATCGGGAAGCTGAAGTCGTTGCACCATCTTTGTTTATT
3-R	GATCCGACGGTAGTGTTCATACAAAATGACATGCTCCA
4-F	GTAATCGGGAAGCTGAAGTCCGATGAAGATCAAAGTTGTTT
4-R	GATCCGACGGTAGTGTTCAGAAGGAGCTCACATCTC
5-F	GTAATCGGGAAGCTGAAGGAGCAGTCCACATTAGTAGTAGT
5-R	GATCCGACGGTAGTGTACCCACTACACTGTTCCCTTT
6-F	GTAATCGGGAAGCTGAAGAATGTCCTTGTTCTGTTCCAG
6-R	GATCCGACGGTAGTGTACCAAGTCAACACAGTAAGGG
7-F	GTAATCGGGAAGCTGAAGTGGTTAATGTTCTTTCCATCTT
7-R	GATCCGACGGTAGTGTGGGGAGTCACGTTGGGTAA
8-F	GTAATCGGGAAGCTGAAGACCATAGAGAGTTCCCTAGTTCT
8-R	GATCCGACGGTAGTGTTCATTTCTCCATGTGCCT
9-F	GTAATCGGGAAGCTGAAGCCTTTAAGCAGCAATAAGATTT
9-R	GATCCGACGGTAGTGTGAGCACCATCTGTTGAGTTC
10-F	GTAATCGGGAAGCTGAAGTTCACCTGAACCTCTGTTTCTGT
10-R	GATCCGACGGTAGTGTCCAAAATGCTCACTGGCTGA
11-F	GTAATCGGGAAGCTGAAGGCCTCAGCCAGTTCTAATGTAAT
11-R	GATCCGACGGTAGTGTATCTGTGGCCTCGATGAAA
12-F	GTAATCGGGAAGCTGAAGCAGCATCATAAGTCTTTCTGTCA
12-R	GATCCGACGGTAGTGTGTGATTCTCCCTCTATTACCA
13a-F	GTAATCGGGAAGCTGAAGTTGACTCTGGCCTTGGCTAT
13a-R	GATCCGACGGTAGTGTCTGCACAATACTGAGGTTAGT
13b-F	GTAATCGGGAAGCTGAAGTGGATGGAACTTTCTACCTGC
13b-R	GATCCGACGGTAGTGTCCCATGAAATAATTGCTTGGC

F: Forward primer, R: Reverse primer

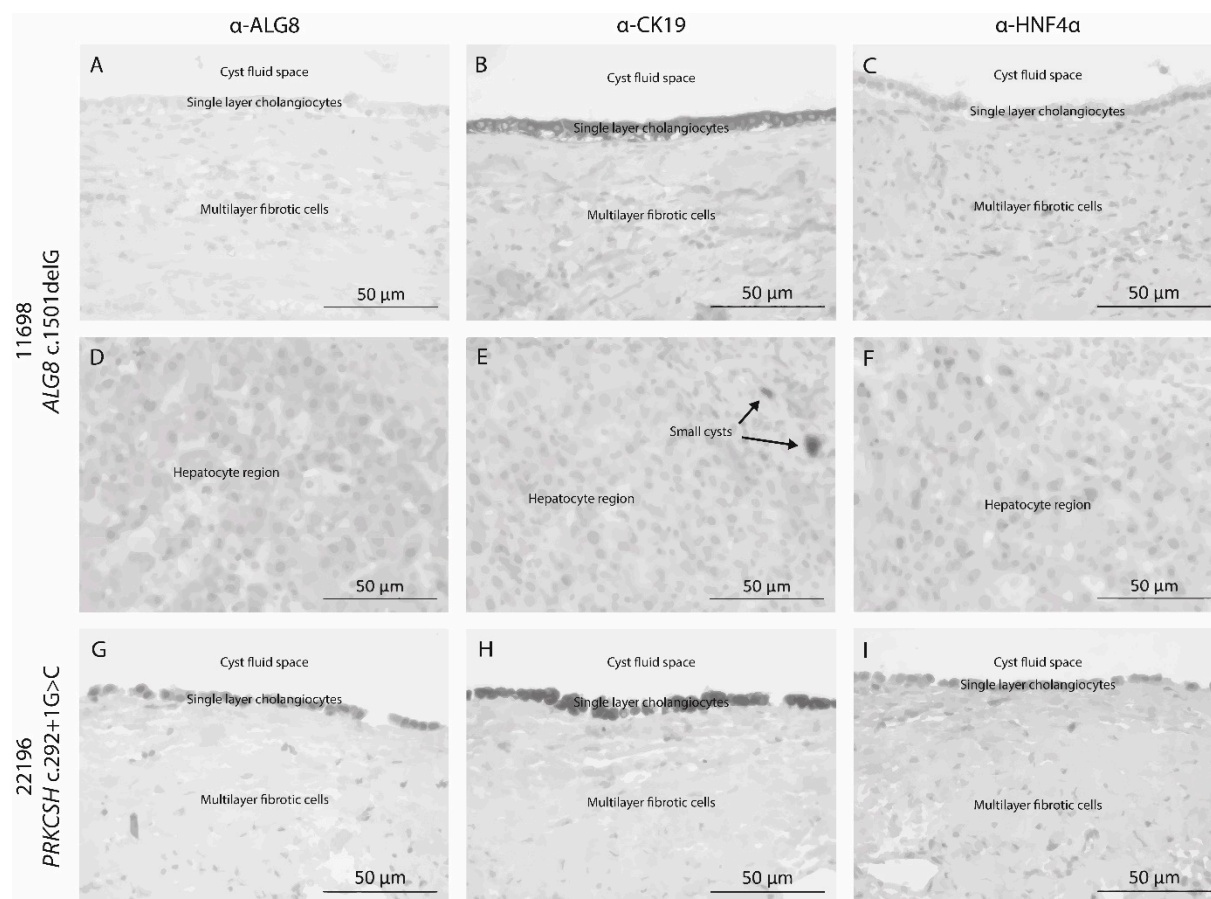
### Barcodes for MiniSeq preparation

Number & direction	Primer
001-F	AATGATACGGCGACCACCGAGATCTACACACCGGAACCTGATACGAGATCCGTAATCGGGAAGCTGAAG

Novel ALG8 variants and their broad clinical polycystic liver disease spectrum  
Boerrigter et al. (2023)[43]

009-F	AATGATACGGCGACCACCGAGATCTACACA <u>AATCCG</u> TATGATACGAGATCCGTAATCGGGAAGCTGAAG
017-F	AATGATACGGCGACCACCGAGATCTACAC <u>GAATAG</u> ATGATACGAGATCCGTAATCGGGAAGCTGAAG
097-F	AATGATACGGCGACCACCGAGATCTACAC <u>CCATG</u> ATTCGATACGAGATCCGTAATCGGGAAGCTGAAG
105-F	AATGATACGGCGACCACCGAGATCTACACA <u>GAATCCTC</u> GATACGAGATCCGTAATCGGGAAGCTGAAG
113-F	AATGATACGGCGACCACCGAGATCTACACT <u>GCGGCTT</u> GCGATACGAGATCCGTAATCGGGAAGCTGAAG
193-F	AATGATACGGCGACCACCGAGATCTACAC <u>CTTGCA</u> GTAGATACGAGATCCGTAATCGGGAAGCTGAAG
201-F	AATGATACGGCGACCACCGAGATCTACAC <u>GACGGA</u> ATAGATACGAGATCCGTAATCGGGAAGCTGAAG
209-F	AATGATACGGCGACCACCGAGATCTACACT <u>TGGTTC</u> GAGATACGAGATCCGTAATCGGGAAGCTGAAG
289-F	AATGATACGGCGACCACCGAGATCTACAC <u>GTAACA</u> ATTCATACGAGATCCGTAATCGGGAAGCTGAAG
297-F	AATGATACGGCGACCACCGAGATCTACACT <u>ACTTCCG</u> TATACGAGATCCGTAATCGGGAAGCTGAAG
305-F	AATGATACGGCGACCACCGAGATCTACACT <u>TCGGAG</u> AGTCATACGAGATCCGTAATCGGGAAGCTGAAG
385-F	AATGATACGGCGACCACCGAGATCTACAC <u>GTTATTG</u> GTATACGAGATCCGTAATCGGGAAGCTGAAG
393-F	AATGATACGGCGACCACCGAGATCTACAC <u>CCATTG</u> CGTTATACGAGATCCGTAATCGGGAAGCTGAAG
401-F	AATGATACGGCGACCACCGAGATCTACAC <u>GCCAAT</u> AGTTATACGAGATCCGTAATCGGGAAGCTGAAG
481-F	AATGATACGGCGACCACCGAGATCTACACT <u>CTCTCCG</u> GTATACGAGATCCGTAATCGGGAAGCTGAAG
489-F	AATGATACGGCGACCACCGAGATCTACACT <u>CCAGAAG</u> GTATACGAGATCCGTAATCGGGAAGCTGAAG
497-F	AATGATACGGCGACCACCGAGATCTACACT <u>GAGTTGC</u> GTATACGAGATCCGTAATCGGGAAGCTGAAG
577-F	AATGATACGGCGACCACCGAGATCTACAC <u>GATAGTC</u> GCTATACGAGATCCGTAATCGGGAAGCTGAAG
585-F	AATGATACGGCGACCACCGAGATCTACAC <u>GGAATG</u> AGCTATACGAGATCCGTAATCGGGAAGCTGAAG
593-F	AATGATACGGCGACCACCGAGATCTACAC <u>GTTGAG</u> TCCTATACGAGATCCGTAATCGGGAAGCTGAAG
673-F	AATGATACGGCGACCACCGAGATCTACACA <u>AATTGGC</u> GATATACGAGATCCGTAATCGGGAAGCTGAAG
681-F	AATGATACGGCGACCACCGAGATCTACAC <u>CTAACT</u> AGATATACGAGATCCGTAATCGGGAAGCTGAAG
689-F	AATGATACGGCGACCACCGAGATCTACACT <u>AGCCGT</u> CATATACGAGATCCGTAATCGGGAAGCTGAAG
001-R	CAAGCAGAAGACGGCATAACGAGATGTTATTGGTTACACGCACGATCCGACGGTAGTGT
009-R	CAAGCAGAAGACGGCATAACGAGAT <u>CCATTG</u> CGTTACACGCACGATCCGACGGTAGTGT
017-R	CAAGCAGAAGACGGCATAACGAGAT <u>GCCAAT</u> AGTTACACGCACGATCCGACGGTAGTGT
097-R	CAAGCAGAAGACGGCATAACGAGATTCTTCCGGTACACGCACGATCCGACGGTAGTGT
105-R	CAAGCAGAAGACGGCATAACGAGATT <u>CCAGAAG</u> GTACACGCACGATCCGACGGTAGTGT
113-R	CAAGCAGAAGACGGCATAACGAGATTGAGTTGCGTACACGCACGATCCGACGGTAGTGT
193-R	CAAGCAGAAGACGGCATAACGAGATGATAGTCGCTACACGCACGATCCGACGGTAGTGT
201-R	CAAGCAGAAGACGGCATAACGAGATCGAATGAGCTACACGCACGATCCGACGGTAGTGT
209-R	CAAGCAGAAGACGGCATAACGAGATGTTGAGTCCTACACGCACGATCCGACGGTAGTGT
289-R	CAAGCAGAAGACGGCATAACGAGATAATTGGCGATACACGCACGATCCGACGGTAGTGT
297-R	CAAGCAGAAGACGGCATAACGAGATCTAACTAGATACACGCACGATCCGACGGTAGTGT
305-R	CAAGCAGAAGACGGCATAACGAGATTAGCCGTCTACACGCACGATCCGACGGTAGTGT
385-R	CAAGCAGAAGACGGCATAACGAGATACGGAACCTGACACGCACGATCCGACGGTAGTGT
393-R	CAAGCAGAAGACGGCATAACGAGATAATCCGTATGACACGCACGATCCGACGGTAGTGT
401-R	CAAGCAGAAGACGGCATAACGAGATCGAATAGATGACACGCACGATCCGACGGTAGTGT
481-R	CAAGCAGAAGACGGCATAACGAGATCCATGATTCGACACGCACGATCCGACGGTAGTGT
489-R	CAAGCAGAAGACGGCATAACGAGATAGAATCCTCGACACGCACGATCCGACGGTAGTGT
497-R	CAAGCAGAAGACGGCATAACGAGATTGGCGTTGCGACACGCACGATCCGACGGTAGTGT
577-R	CAAGCAGAAGACGGCATAACGAGATCTTGCAGTAGACACGCACGATCCGACGGTAGTGT
585-R	CAAGCAGAAGACGGCATAACGAGATGACGGAATAGACACGCACGATCCGACGGTAGTGT
593-R	CAAGCAGAAGACGGCATAACGAGATTTGGTTCGAGACACGCACGATCCGACGGTAGTGT
673-R	CAAGCAGAAGACGGCATAACGAGATGTACCAATTCACACGCACGATCCGACGGTAGTGT
681-R	CAAGCAGAAGACGGCATAACGAGATTACTTCCGTACACGCACGATCCGACGGTAGTGT
689-R	CAAGCAGAAGACGGCATAACGAGATTCCGAGAGTACACGCACGATCCGACGGTAGTGT

F: Forward primer, R: Reverse primer



**Supplementary figure S1** Liver cyst key features. **A-C** and **G-I** Large cysts are encapsulated by a single layer of cholangiocytes followed by multiple layers of fibrotic/connective tissue. Lobules, portal veins, hepatic arteries, and hepatocytes are absent. **D-F** Hepatocytes remain in less severely affected regions. However, lobules, portal veins, and hepatic arteries are severely diminished. Small liver cysts start to arise (**E**).