

Supplemental Table 1. Sources of antibodies for western blotting.

| SN: | Protein | Company | Catalog No |
|-----|----------------|----------------|------------|
| 1 | LCPI | Invitrogen | MA5-11921 |
| 2 | PARP | Cell signaling | 9542S |
| 3 | Caspase 3 | Cell signaling | 9662S |
| 4 | LC3B | Cell signaling | 2775 |
| 5 | Atg5 | Cell signaling | 12994S |
| 6 | Atg7 | Cell signaling | 8558S |
| 5 | SQSTM1 | Cell signaling | 5114 |
| 6 | Atg5 | Cell signaling | 12994S |
| 7 | Atg7 | Cell signaling | 8558S |
| 8 | β -actin | Santa Cruz | Sc-47778 |

For subcellular fractionation

| SN: | Marker Protein | Fraction | Source | Catalog No |
|-----|----------------|-----------------|---------|------------|
| 1 | MEK1/2 | Cytosol | CST | 8727 |
| 2 | Calreticulin | Membrane | CST | 12238 |
| 3 | VDAC | Membrane | CST | 4866 |
| 4 | PARP1 | Nuclear soluble | CST | 9542 |
| 5 | H2AX | Chromatin | Upstate | 07-627 |

Supplemental Table 2. Sequence of PCR primers.

| SN: | Gene | Forward primer | Reverse sequence |
|-----|--------------------|----------------------------------|------------------------------------|
| 1 | <i>Human LCPI</i> | <i>GTTGGCATCGGTGGACAAGA</i> | <i>GGCCACCACCAATTTCTTCG</i> |
| 2 | <i>Murine LCPI</i> | <i>CCCCTAATTCTGCTGCGGG</i> | <i>CAGCCTTCCGTACAGCTACA</i> |
| 3 | <i>P21</i> | <i>GCAGATCCACAGCGATATCCA</i> | <i>AACAGGTTCGGACATCACCAG</i> |
| 4 | <i>P53</i> | <i>GTCACAGCACATGACGGAGG</i> | <i>TCTTCCAGATACTCGGGATAC</i> |
| 5 | <i>Cdkn1b</i> | <i>CAGGCAAACCTCTGAGGACCG</i> | <i>CTGGACACTGCTCCGCTAAC</i> |
| 6 | <i>Bip</i> | <i>TTCAGCCAATTATCAGCAAACCTCT</i> | <i>TTTTTCTGATGTATCCTCTTCACCAGT</i> |
| 7 | <i>Chop</i> | <i>GCCAGAATAACAGCCGGAACC</i> | <i>AAGGTGAAAGGCAGGGACTCA</i> |
| 8 | <i>Xbp1s</i> | <i>GGCATCCTGGCTTGCCTCCA</i> | <i>GCCCCCTCAGCAGGTGTTCC</i> |
| 9 | <i>XBPI</i> | <i>CCTGTACGCCAACACAGTGC</i> | <i>CTTCATTGTGCTGGGTGCCAG</i> |
| 9 | <i>Atf4</i> | <i>GTTGTGTCAGAGAACCAGAGGCTT</i> | <i>CCAACATGCTCATAGGTCCATAGTTC</i> |
| 10 | <i>MPO</i> | <i>TCCCACTCAGCAAGGTCTT</i> | <i>TAAGAGCAGGCAAATCCAG</i> |
| 11 | <i>Cebpa</i> | <i>CCGTGGTGGTTTCTCCTTGA</i> | <i>TTTTTGCTCCCCCTACTCGG</i> |
| 12 | <i>Cebpe</i> | <i>ACAATCCCCTGCAGTACCAA</i> | <i>CAAAGGGGCCTTGAGAACGC</i> |
| 13 | <i>Csf3r</i> | <i>AGGGCTATCTCATTGAGTGGG</i> | <i>CTGTAATTCTGTAGAGCTGAAAGGG</i> |

Supplemental Materials

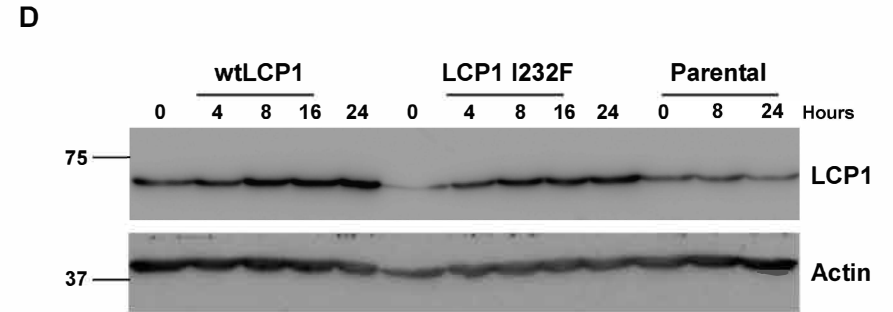
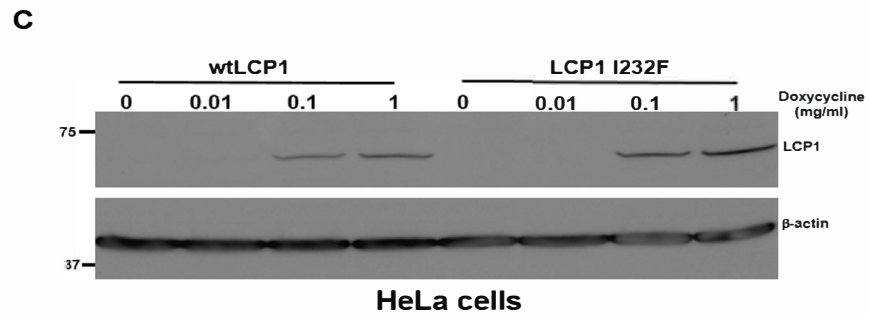
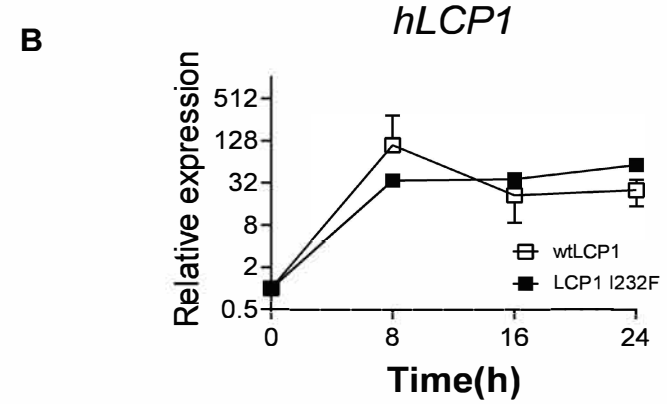
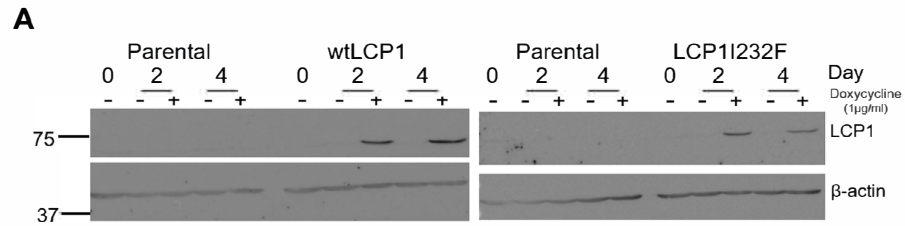
Supplemental Figure 1. (A) Induction of LCP1 in 32D cells upon doxycycline treatment at indicated time points. (B) qPCR-based analysis of doxycycline dependent *LCPI* induction in 32D cells at indicated time points. (n=4) (C) Immunoblotting analysis of LCP1 expression in a dose- dependent doxycycline induction in HeLa cells at indicated concentrations. (D) Immunoblotting analysis of LCP1 expression at different times (0 to 24 hr) of LCP1 induction with doxycycline. Actin was used as a control for immunoblotting and qPCR.

Supplemental Figure 2. Laboratory information of the index patient

Supplemental Figure 3. qPCR-based gene expression analysis of markers of cell cycle suppression at indicated time points. (n=2)

Supplemental Figure 4. Differentiation analysis of 32D cells expressing wtLCP1 and LCP1 I232F upon G-CSF treatment by differential cell count, n=2 (A) and flow cytometry-based surface marker expression, n=2 (B).

SUPPLEMENTAL FIGURE 1

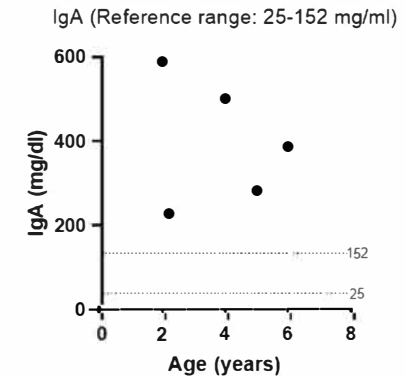
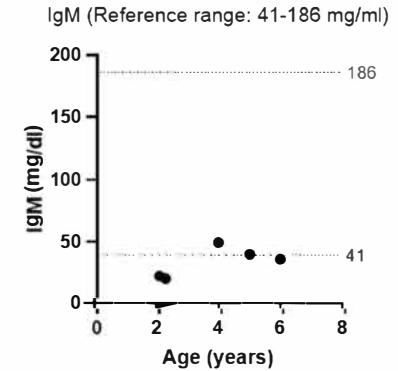
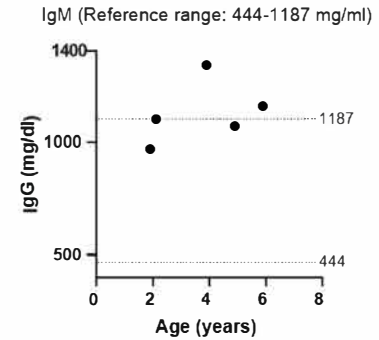


SUPPLEMENTAL FIGURE 2

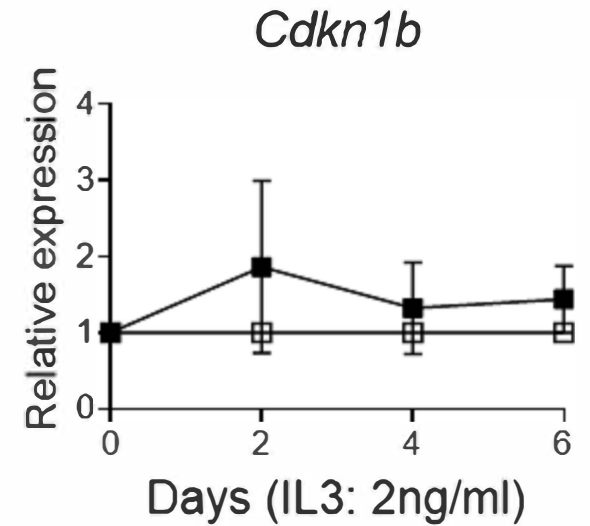
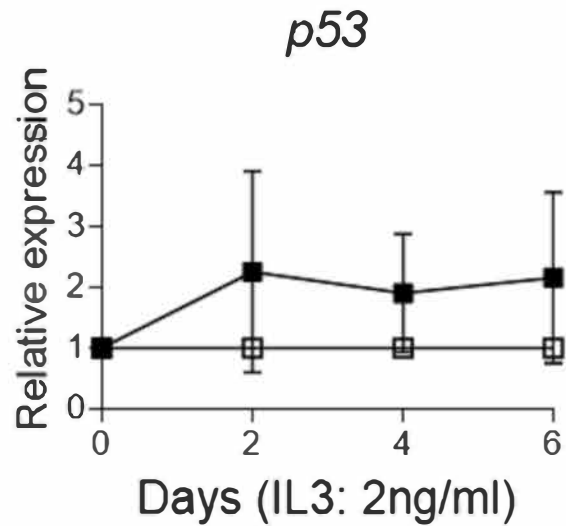
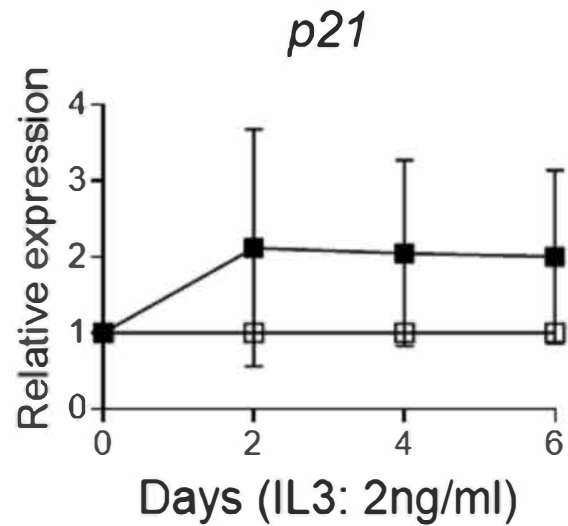
A

| Hematologic parameters | Median (Range) | 95% CI | Reference Range |
|---------------------------------------------------|---------------------|-------------|-----------------|
| Complete Blood Counts | | | |
| Hemoglobin (g/dl) | 10.8 (8.4-12.5) | 10.5-11 | 10.6-13.4 |
| Absolute reticulocyte count (x10 ⁹ /L) | 0.073 (0.054-0.099) | 0.054-0.099 | 0.036-0.068 |
| MCV (fL) | 76 (69.9-80.5) | 75.5-76.7 | 74.4-87.6 |
| Platelet count (x10 ⁹ /L) | 274 (137-661) | 257-307 | 150-400 |
| MPV (fL) | 9 (7.9-10.9) | 8.8-9.1 | 9.2-11.4 |
| WBC (x10 ⁹ /L) | 2.21 (0.71-6.07) | 1.89-2.65 | 4.26-11.4 |
| ANC (x10 ⁹ /L) | 0.165 (0-2.09) | 0.09-0.25 | 1.5-7.87 |
| AMC (x10 ⁹ /L) | 0.28 (0-1.09) | 0.15-0.37 | 0.19-0.85 |
| ALC (x10 ⁹ /L) | 1.55 (0.26-4.28) | 1.43-1.7 | 0.97-4.28 |
| Lymphocyte subsets | | | |
| CD3+ T cell (cells/μL) | 1065 (1051-1078) | 1051-1078 | 958-2388 |
| CD4+CD3+ Tcell (cells/μL) | 569 (547-591) | 547-591 | 533-1674 |
| CD3+CD8+ T cell (cells/μL) | 355.5 (355-356) | 355-356 | 175-958 |
| CD19+ B cell (cells/μL) | 246.5 (234-259) | 234-259 | 75-660 |
| NK cell (cells/μL) | 510 (487-534) | 487-534 | 102-565 |
| CD4/CD8 ratio | 1.6 (1.54-1.66) | 1.54-1.66 | 1.1-3.25 |
| Immunoglobulin levels | | | |
| Immunoglobulin G (mg/ml) | 1100 (969-1340) | 969-1340 | 444-1187 |
| Immunoglobulin A (mg/ml) | 387 (228-589) | 228-589 | 25-152 |
| Immunoglobulin M (mg/ml) | 36 (20-49) | 20-49 | 41-186 |

B

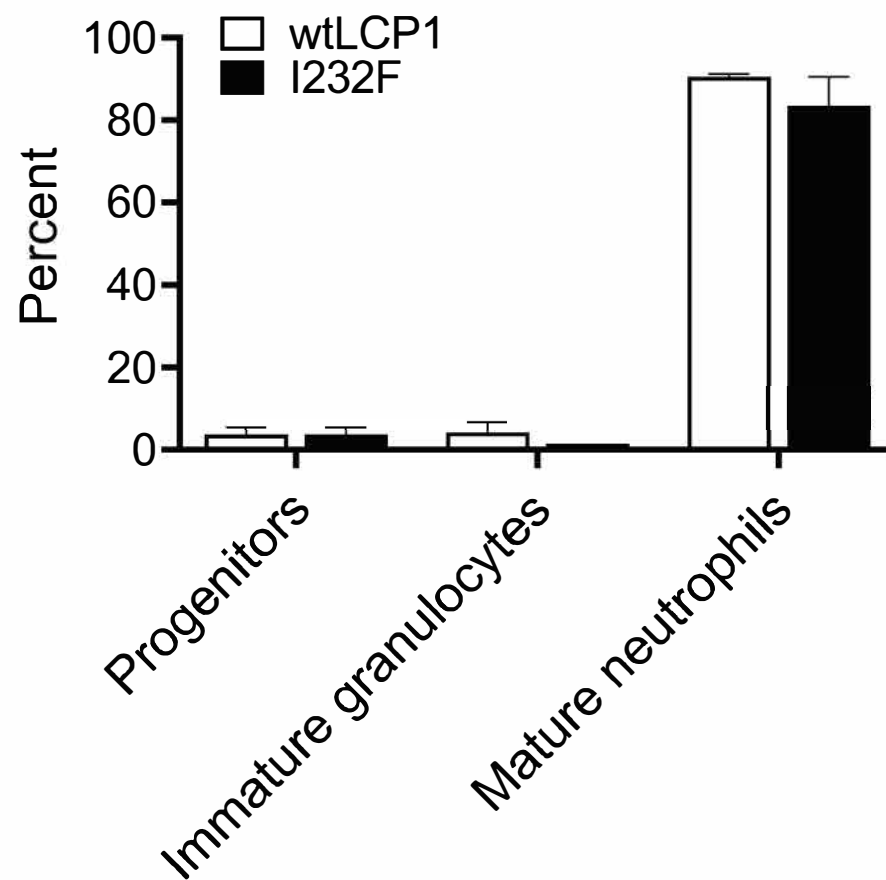


SUPPLEMENTAL FIGURE 3



SUPPLEMENTAL FIGURE 4

A



B

