

**Supplementary Table 1: Overview of all primary CML samples used in this study**

Patient No.	Age at diagnosis	Sex	WBC at diagnosis (x10 <sup>6</sup> /mL)	IM Response (disease progression)	Sample used for
<b><i>IM-nonresponders*:</i></b>					
1	45	M	392.3	NR	Fig. 2a, 3, 4a, 4b, 6, 7, 8a, Suppl. Fig. 3, 10
2	22	M	212.8	NR	Fig. 2a, 3, 4a, 4b, 6, 7, 8a, Suppl. Fig. 3
3	55	M	676.6	NR	Fig. 2a, 3, 4a, 4b, 6, 7, 8a, Suppl. Fig. 3
4	21	M	202.9	NR (BC)	Fig. 2a, 6, 7, Suppl. Fig. 10
5	n/a	M	n/a	NR	Fig. 6, 7, Suppl. Fig. 10
6	60	F	492	NR	Fig. 2a
7	11	M	160.5	NR	Fig. 2a
8	27	M	480	NR (BC)	Fig. 2a
9	19	F	355.5	NR	Fig. 2a
10	34	M	174.6	NR	Fig. 2a
11	39	M	186	NR	Fig. 2a
12	61	M	200	NR	Fig. 2a
13	80	F	172.8	NR	Fig. 2a
14	48	M	140	NR	Fig. 2a
15	24	M	88.7	NR	Fig. 2a
16	28	M	225.2	Non-compliant	Fig. 2a
<b><i>IM-responders*:</i></b>					
1	32	M	353.2	R	Fig. 2a, Suppl. Fig. 6b, 8b, 10
2	57	M	450	R	Fig. 2a, Suppl. Fig. 6b, 8b, 10
3	79	M	192.3	R	Suppl. Fig. 6b, 8b, 10
4	67	M	163.5	R	Fig. 2a
5	33	M	165.9	R	Fig. 2a
6	52	M	202.3	R	Fig. 2a
7	42	F	175.1	R	Fig. 2a
8	35	M	338.3	R	Fig. 2a
9	58	M	42.5	R	Fig. 2a
10	56	F	301.6	R	Fig. 2a
11	n/a	M	n/a	R	Fig. 2a
12	39	M	203.2	R	Fig. 2a

\*IM-responders (R) and IM-nonresponders (NR) were classified based on the European Leukemia Net guidelines where IM responders achieved complete hematologic remission within 3 months, major cytogenetic remission within 12 months, and complete cytogenetic remission within 18 months<sup>6, 33</sup>. Conversely, IM-nonresponders did not achieve one or more of these response criteria, had evidence of loss of a complete hematologic response or a complete cytogenetic response, or developed blast crisis (BC). n/a= data not available.

**Supplementary Table 2: Primary antibodies used in this study**

Antibody	Supplier	Antibody	Supplier
anti-HA tag	applied biological materials (ABM)	anti-Myc tag	cell signaling Technology (CST0)
anti-Myc tag	Abcam	anti-DNM2	Abcam
anti-ABL (8E9)	BD Biosciences	anti-phosphotyrosine (4G10)	Millipore
Anti-JAK2	CST	anti-phospho-JAK2	CST
anti-STAT5	CST	anti-phospho-STAT5	Abcam
anti-AKT	CST	anti-phospho-AKT	CST
anti-ERK	CST	anti-phospho-ERK	Santa Cruz Biotechnology
anti- $\beta$ -actin	ABM	anti-ULK-1	CST
anti-Bec1in-1	CST	anti-LC3B	CST
anti-p62	Sigma-Aldrich	anti-EEA1	CST
Anti- LAMP-1	CST		