

## Supplementary figure legends

**Supplemental Figure 1** Identification of AML specific clone 2K23. Representative examples of binding of the mini-culture 2K23 supernatant to the AML cell lines Molm13, MonoMac6 and THP-1. 2K23 supernatant did not bind to fibroblasts or the colon cell line Caco2.

**Supplemental Figure 2** Absence of binding to non-myeloid malignancies. Representative examples of 2 experiments are shown. PA039 and CA081 are malignant cells obtained from newly diagnosed multiple myeloma or colon cancer patients in our clinic. HE081 are non-malignant cells isolated from colon and ileum resection material of a colon cancer patient. Grey filled histograms: AT1002.

**Supplemental Figure 3** Expression and pulldown confirmation. (A) Expression of CD43-Flag THP-1 truncations is confirmed with the input lysates in Westernblot. Staining: CD43 intracellular (Novus). (B) Pulldown confirmation of the AT1413 IP. Immunoblot performed with anti CD43 (Novus) demonstrating pulldown of endogenous CD43 in all samples and truncated CD43 up to region F (G).

**Supplemental Figure 4** Epitope of AT1413. The amino acid sequence of the CD43 protein with the signaling peptide in bold and the starting amino acid of truncated versions A-K in red bold. The transmembrane part of the protein is in bold italics and the epitope of AT1413 is underlined.

**Supplemental Figure 5** CD43s is a novel epitope. The expression of CD43 is present in all CD43 mutants as is shown in the upper panel Staining: CD43 intracellular (Novus). Immunoblotting with Mem59 and DF-T1 shows that these antibodies bind an identical region on CD43, located between amino acids 59-82 and present on truncations A, B and C.

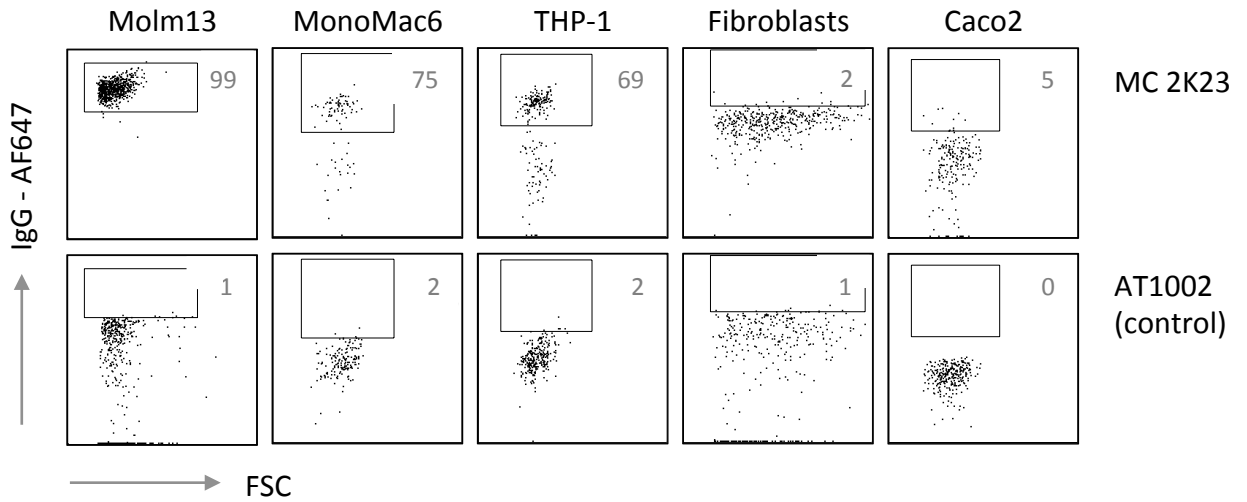
**Supplemental Figure 6** Interaction of AT1413 with mouse cells. FACS staining of mouse aorta endothelial cells (MAEC), human aortic endothelial cells (HAEC) and

SH2 cells with AT1413.

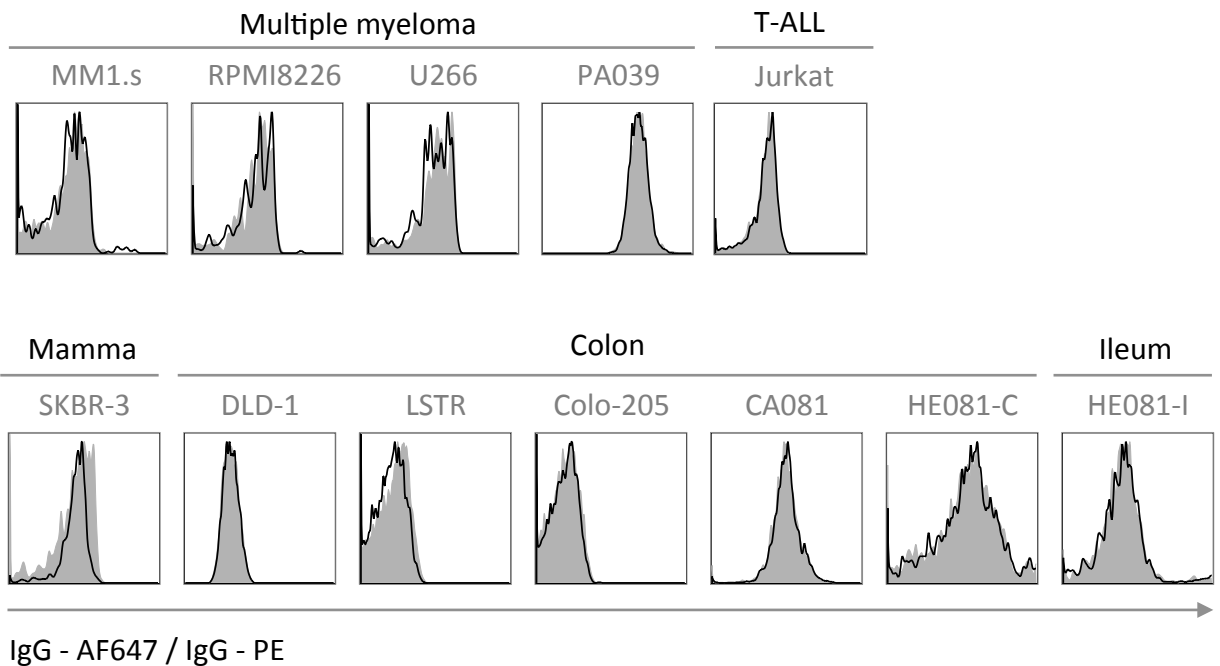
**Supplemental Figure 7** Transient weight loss of mice treated with AT1413. Weight was set at 100% at the start of treatment (day 19 after AML inoculation).

**Supplemental Figure 8** AT1413 treatment of non-humanized NSG mice with human AML. Female non-humanized NSG mice were inoculated with  $10^7$  luciferase labeled SH2 cells via tail vein injection. Mice were treated with the AML antibody AT1413 or with an influenza specific antibody (AT1002) twice a week, from day 19 to day 35.

**Supplemental Figure 1** Identification of AML specific clone 2K23



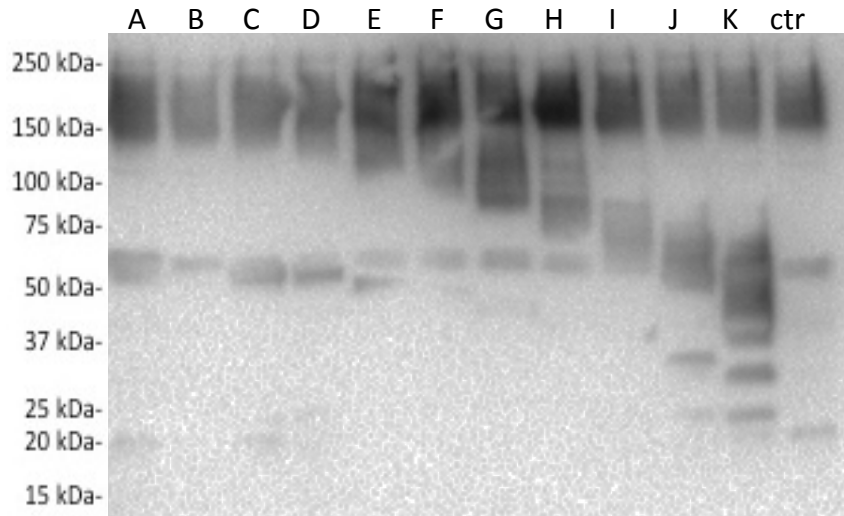
**Supplemental Figure 2** Absence of binding to non-myeloid malignancies



**Supplemental Figure 3** Expression and pulldown confirmation

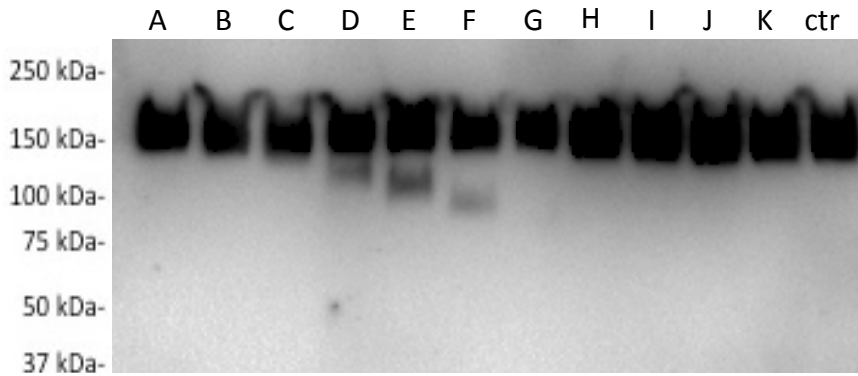
**A**

CD43-Flag THP1 truncations  
input lysates



**B**

**a-CD43 cyto**  
CD43-Flag THP1 truncations  
AT14-13 IP elute



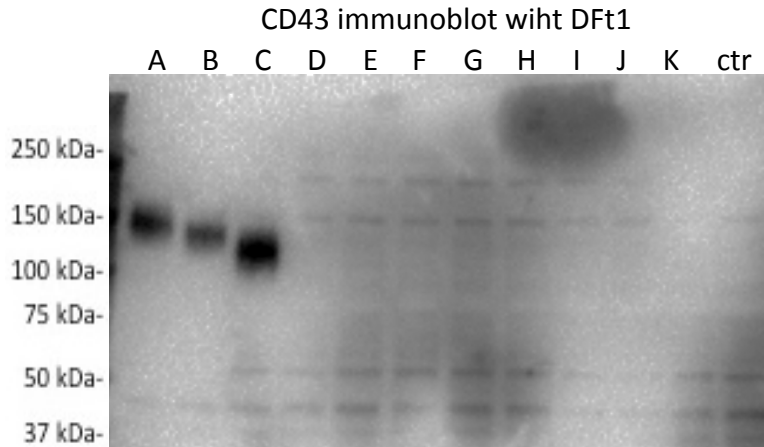
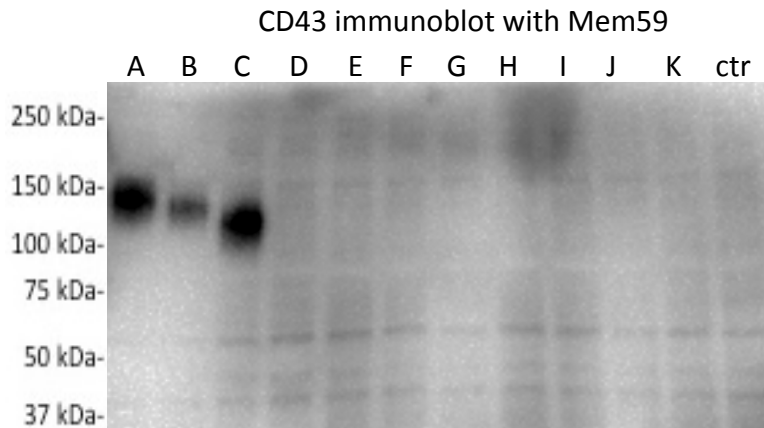
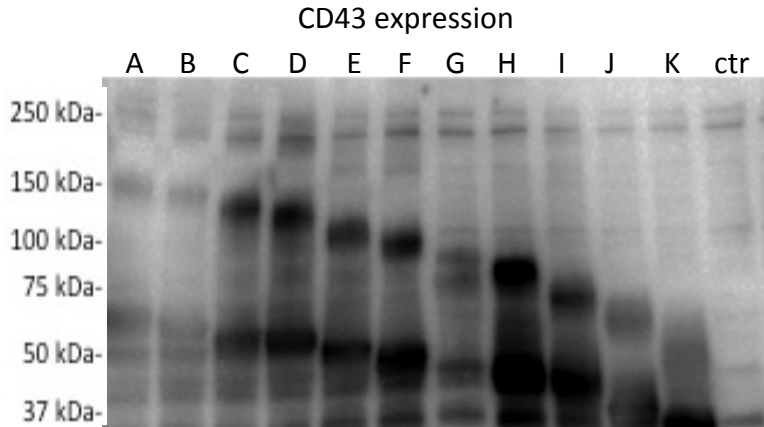
## Supplemental Figure 4 Epitope of AT1413

1 **MATLLLLLGV LVVSPDALGS** TTAVQTPTSG **E**PLVSTSEPL SSKMYTTSIT  
51 SDPKADST**GD** QTSALPPSTS INEGSPLWTS **I**GASTGSPLP EPTTYQEVSI  
101 KMSSVPQETP **H**ATSHPAVPI TANSLGSHTV TG**G**TITTNSP ETSSRTS**GAP**  
151 VTTAASSLET SRGTS**GP**PLT MATVSLETSK GTSG**P**PVTMA TDSLETSTGT  
201 **T**GPPVTMTTG SLEPSSGAS**G** PQVSSVKLST MMSPTTSTNA STVPFRNPDE  
251 NSRG**MLPVAV** **L**VALLAVIVL **V**ALLLWRRR QKRRTGALVL SRGGKRNQV  
301 DAWAGPAQVP EEGAVTVTVG GSGGDKGSGF PDGEGSSRRP TLTTFFGRRK  
351 SRQGLAMEE LKSGSGPSLK GEEEPLVASE DGAVDAPAPD EPEGGDGAAP

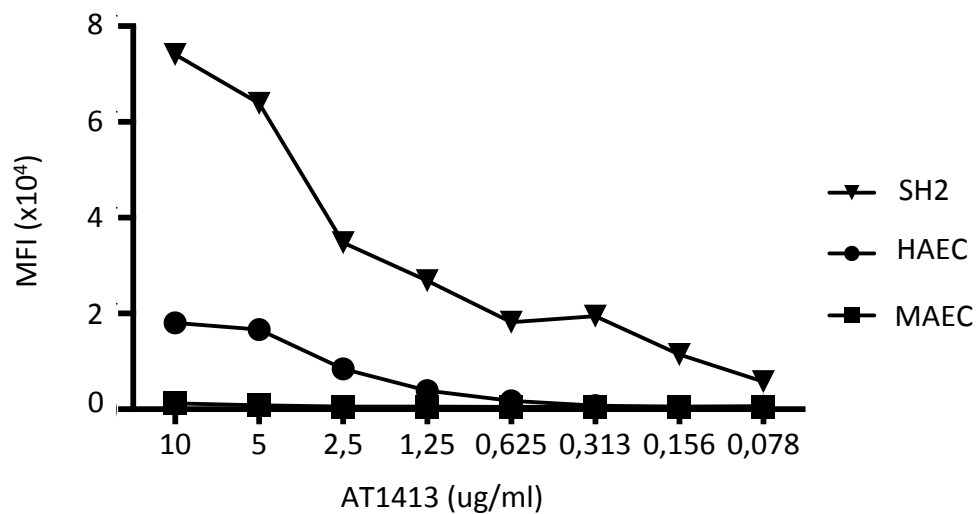
Mutations are indicated by red arrows pointing to the mutated residue:

- Mut A: S → G
- Mut B: E → I
- Mut C: G → D
- Mut D: I → G
- Mut E: H → A
- Mut F: G → T
- Mut G: A → G
- Mut H: G → P
- Mut I: P → G
- Mut J: T → G
- Mut K: G → S

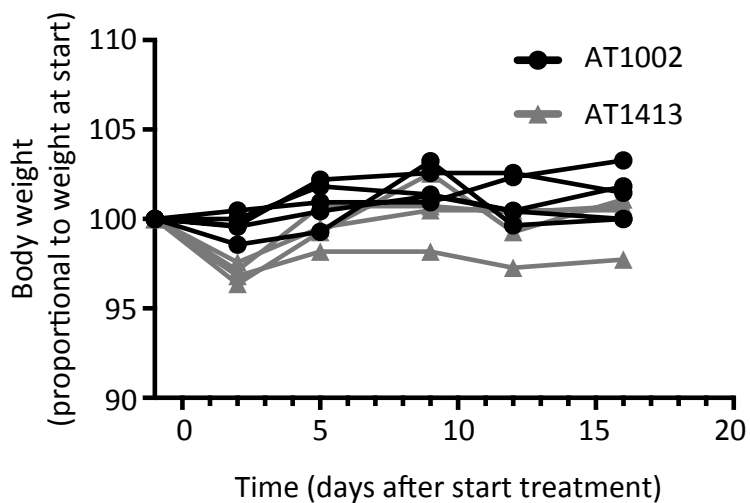
**Supplemental Figure 5** CD43s is a novel epitope



**Supplemental Figure 6** Interaction of AT1413 with mouse cells



**Supplemental Figure 7** Transient weight loss of mice treated with AT1413



**Supplemental Figure 8** AT1413 treatment of non-humanized NSG mouse with AML

