

**Supplementary Table 1: Strong correlations between ALK levels and ALK inhibitor response, independent of *MYCN* status.**

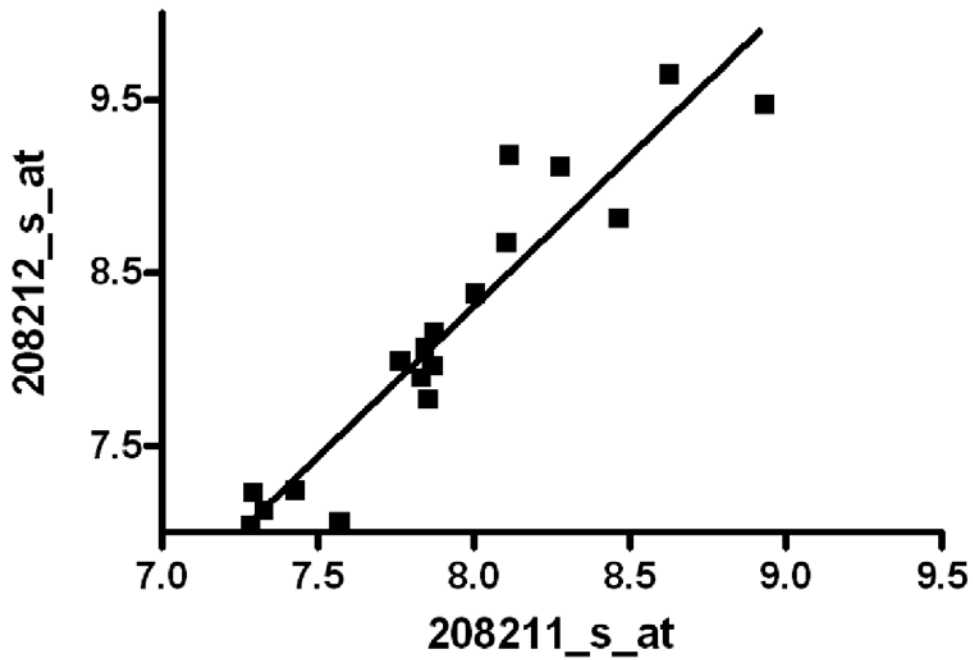
ALK levels	Spearman's rho		Linear regression model*	
	r	p	r	p
ALK mRNA	-0.754	0.012	-0.806	0.025
ALK 220 kDa	-0.813	0.001	-0.775	0.016
ALK 140 kDa	-0.844	0.001	-0.799	0.01

\* Multivariate analysis correcting for MYCN status (linear regression model) in all NBL cell lines.

**Supplementary Table 2: ALK expression and ALK inhibitor sensitivity of biphenotypic SK-N-SH is higher than that of its schwannian derivatives SHEP-21N and SHEP-2.**

Cell line	ALK mutation	ALK mRNA	ALK (220 kDa)/ GAPDH	ALK (140 kDa)/ GAPDH	pALK(220 kDa)/GAPDH	LC50 TAE684
SK-N-SH	F1174L	8.7	4.4	7.0	0.9	9.4
SHEP-21N	F1174L	7.3	1.4	2.0	2.9	707.8
SHEP-2	F1174L	7.3	1.4	2.9	0.6	428.7

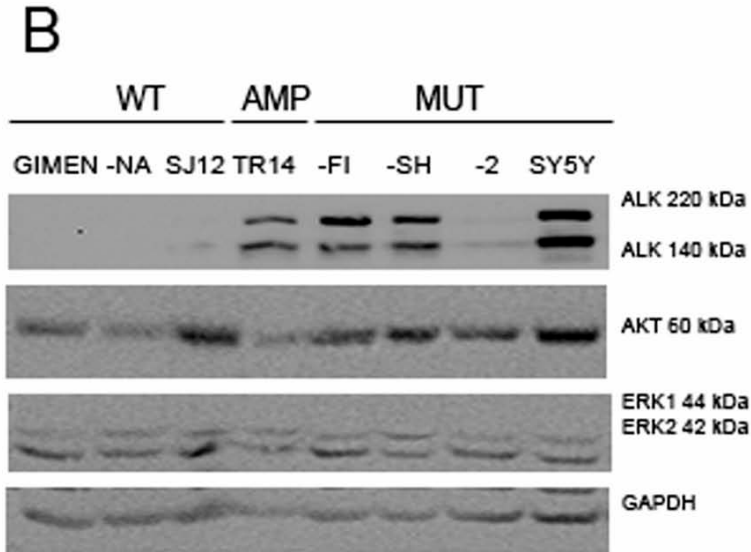
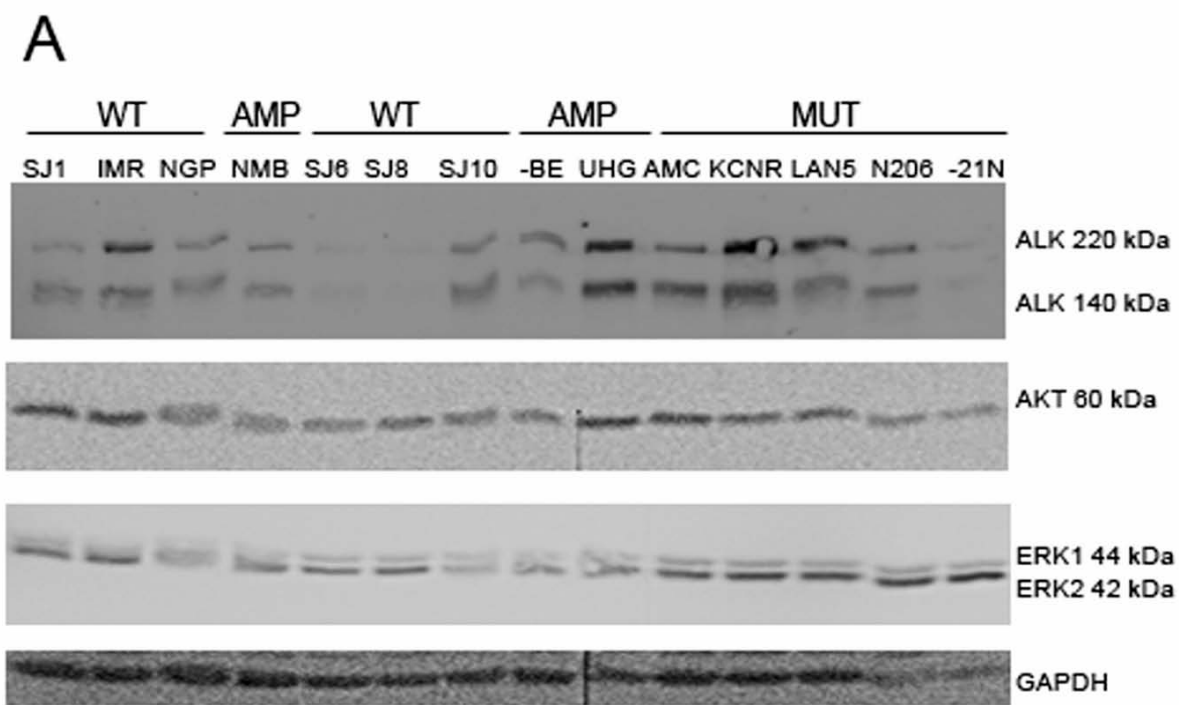
### Supplementary Figure 1

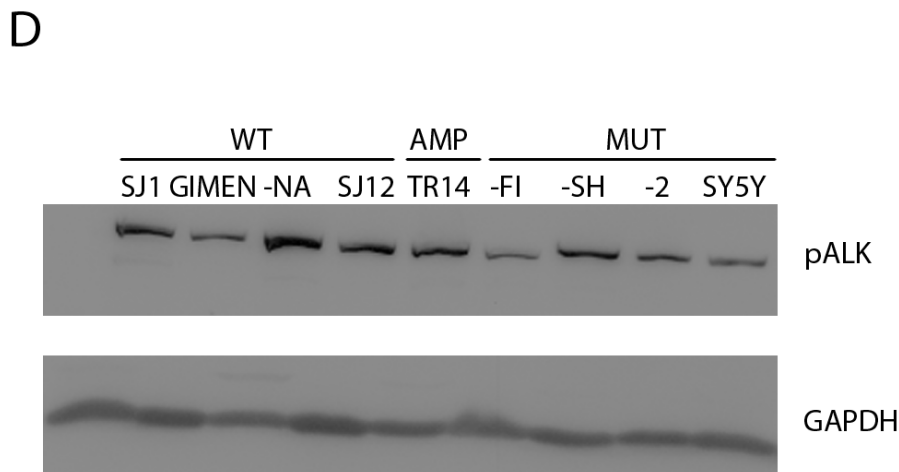
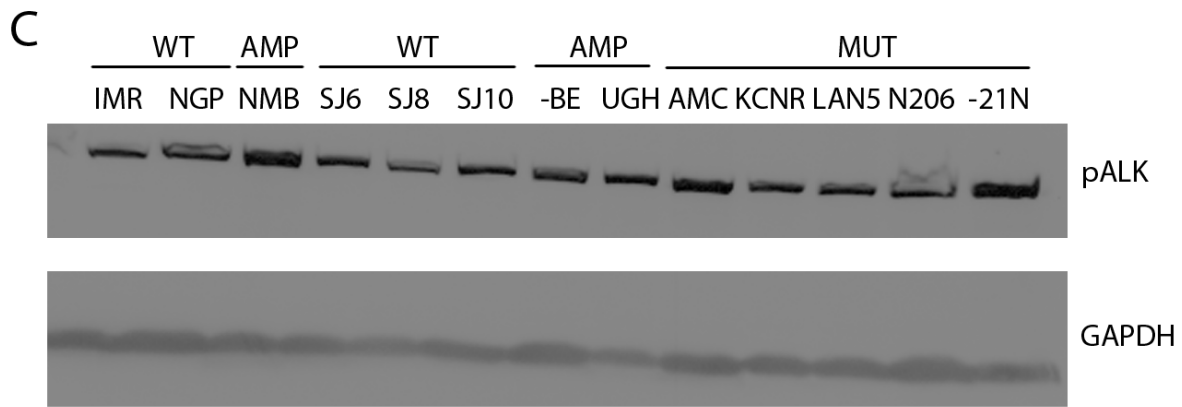


### Supplementary Figure 1: High correlation probesets *ALK*

The two probesets for *ALK* on the HU133plus2 expression array show a high correlation (spearman's rho  $r=0.94$ ,  $p<0.01$ ). A linear line was fitted.

Supplementary Figure 2



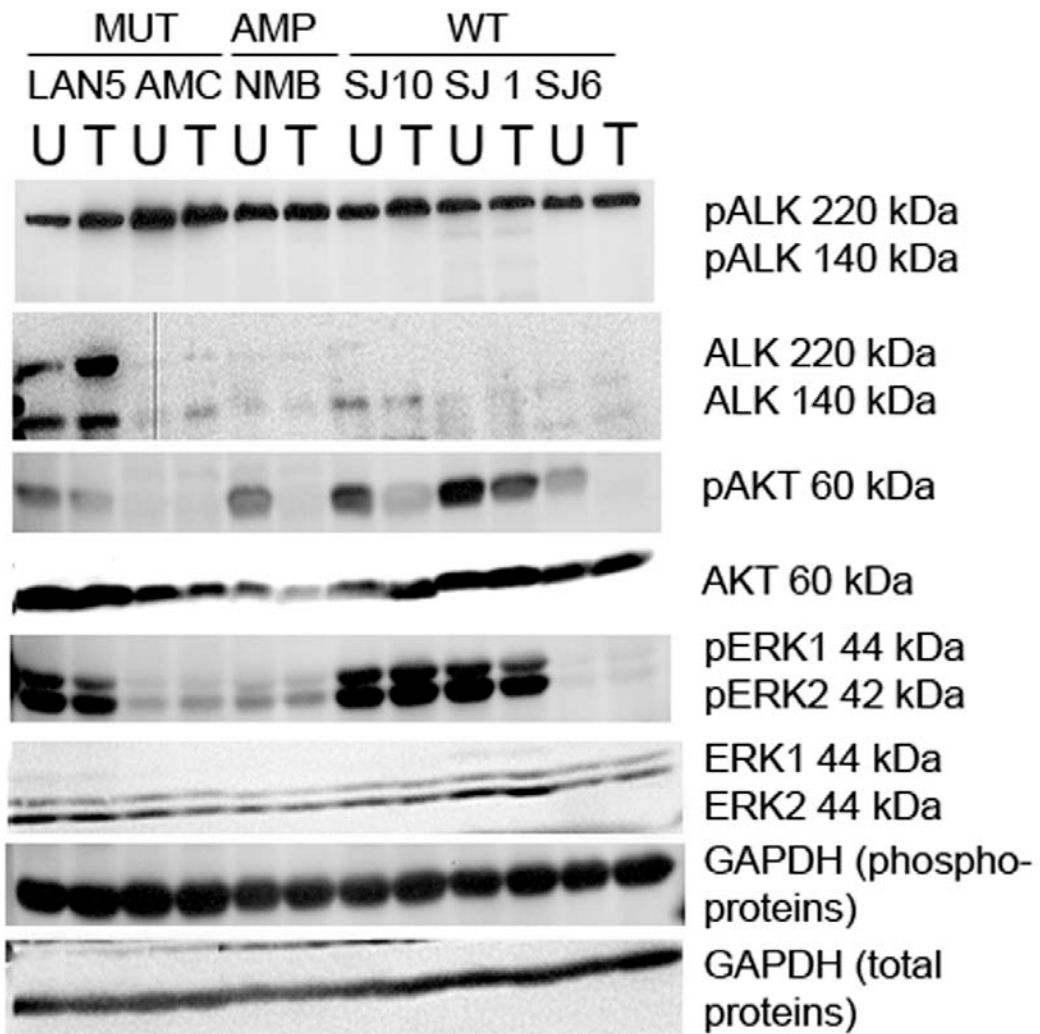


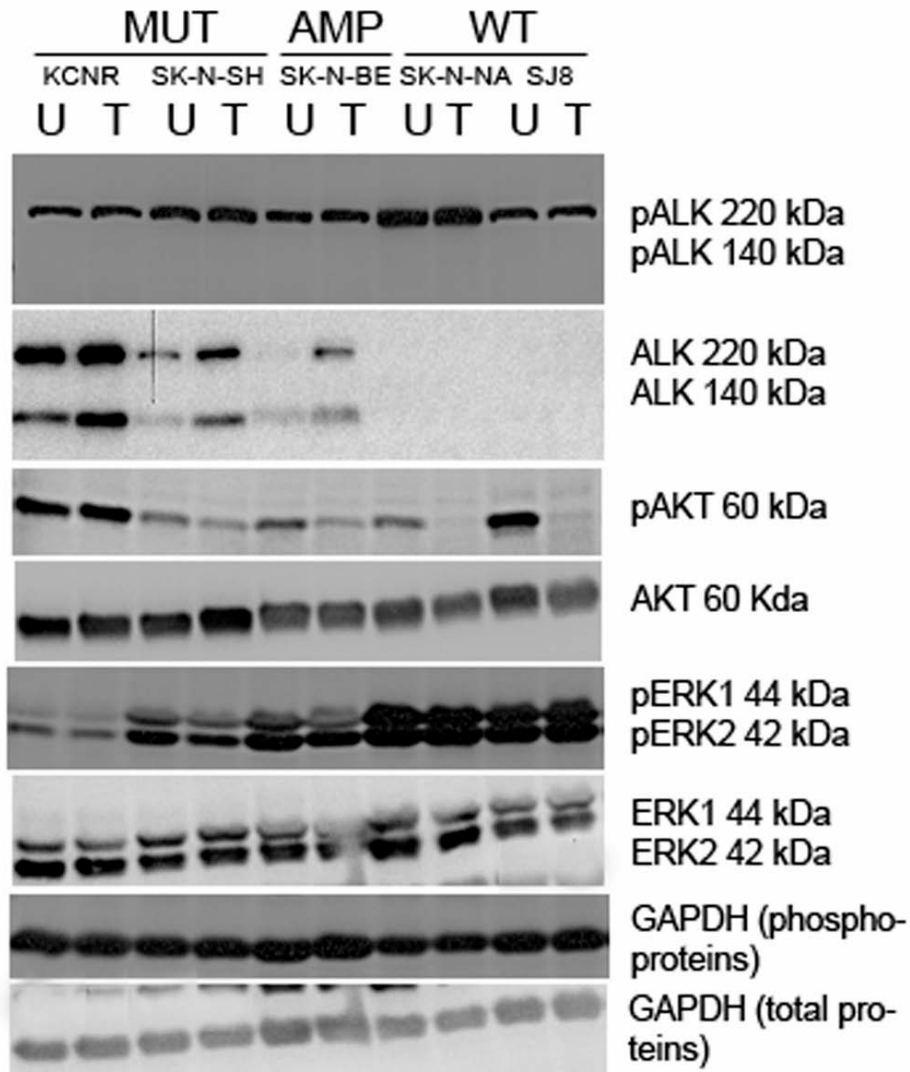
**Supplementary Figure 2: Western blots of all NBL cell lines**

Figure 2A and 2B display ALK, AKT, ERK1 and ERK protein expression in all NBL cell lines. Figure 2C and 2D display pALK expression in all NBL cell lines. Western blots of all NBL cell lines.

MUT, point mutated; AMP, amplified ( $\geq 5$  gene copies); WT, wild type

Supplementary Figure 3

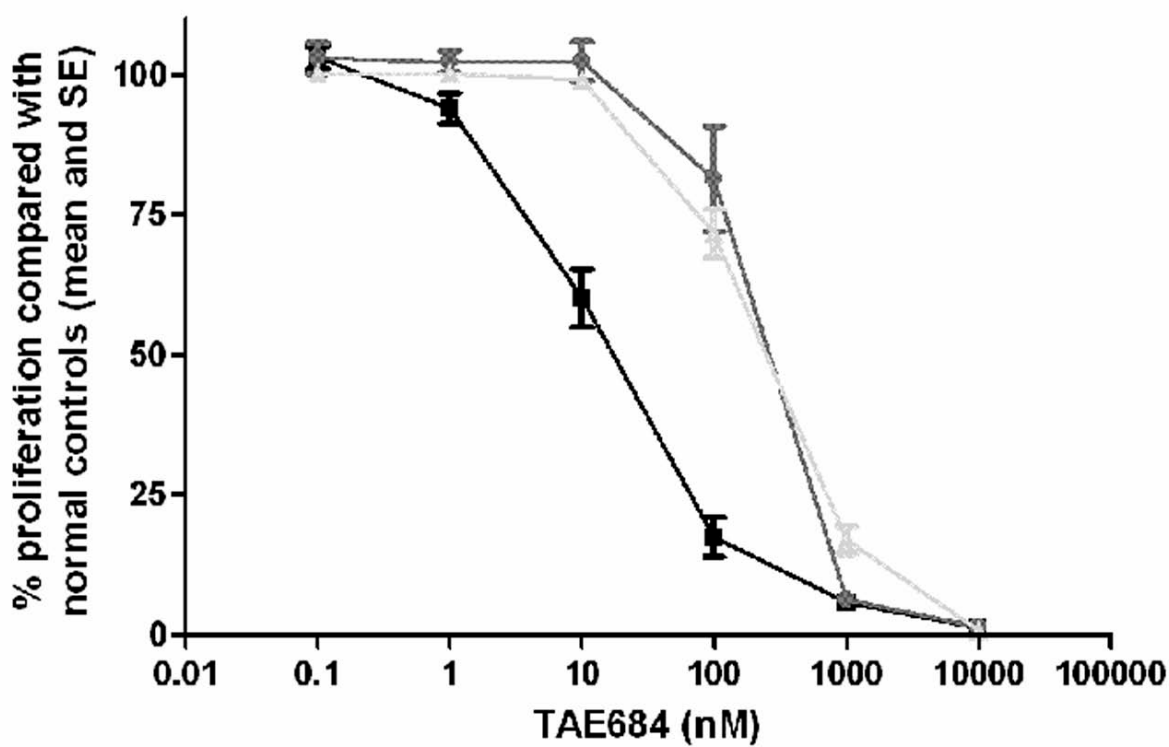




### Supplementary Figure 3: Western blots of treatment effects ALK inhibitor

Blots displaying protein expression of ALK, pALK and downstream signaling proteins after 72 hours treatment with TAE684 (LC50 determined per cell line). SJNB-12 cell lines not included on Western Blot, because too little protein available. Western blots of treatment effects ALK inhibitor. U= untreated, T= treated for 72 hours with LC50 concentration of TAE684, MUT, point mutated; AMP, amplified ( $\geq 5$  gene copies); WT, wild type

Supplementary Figure 4



Supplementary Figure 4: Responsiveness to TAE684 is correlated with *ALK* mutation status

Effect of ALK inhibitor treatment on proliferation of twelve NBL cell lines measured by MTS viability assay is shown in this graph. *ALK* mutant cell lines (black squares, n=4) show higher sensitivity to TAE684 than WT cell lines (*ALK* WT cell lines displayed by light grey triangles (n=6), amplified cell lines displayed by dark grey circles (n=2)). Experiments were performed with triplicate measurements. The Y-axis displays the mean and standard error of triplicate measurements in all mutated versus all wild type versus all amplified cell lines.