**Supporting Information**

Figure S1. RMSD values in [Å] of 100ns simulation of the wild type free ALK

Figure S2. RMSD values in [Å] of 100ns simulation of i) wild type ALK-ADP complex (in red); ii) wild type ALK-Staurosporine Complex (in blue) in reference to the iii) wild type free enzyme ALK (in black).
Figure S3 (A to I) RMSD values in Å of 100ns simulation of all activation mutation forms of the free ALK in reference to the wild type free ALK.
Figure S4. RMSF Values for the αC-helix, αA-helix, A-loop, catalytic loop and P-loop for ALK-ADP and ALK-Staurosporine Complexes in reference to the wild type free ALK.

A) N-Terminal β-Turn
B) αC Helix
C) αA Helix
D) A Loop
E) Catalytic Loop
F) Glycine Rich Loop (P Loop)
Figure S5. RMSF Values for the αC-helix, αA-helix, A-loop, catalytic loop, and P-loop for all activation mutants free ALK in reference to the wild type free enzyme.