

## Figure S1. Ba/F3-BCR-Abl cells were treated with imatinib or INCB018424 for 20 minutes after which they were collected and their proteins extracted

An equal amount of protein from each sample was subjected to standard immunoblotting techniques. STAT5 phosphorylation was sepecifically reduced only by imatinib in these cells. STAT3 phosphorylation was modest and was slightly affected by both compounds in these cells. Total STAT3 and STAT5 and  $\beta$ -actin were included as controls.

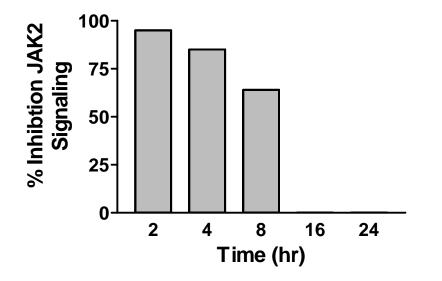


Figure S2. Balb/c mice were given a single oral dose of 90 mg/kg INCB018424 and terminal blood samples were collected at sequential times following dose (2, 4, 8, and 16 hours; n = 3 for each time point) Pooled blood samples were stimulated with recombinant human thrombopoietin (50 µg/mL, R&D Systems) to stimulate JAK2 or saline for 15 minutes at 37°C. Red blood cells were lysed and white blood cells were then quickly pelleted and lysed to make total cellular extracts. The extracts were analyzed for phosphorylated STAT3 by using a phospho STAT3 (Y705) specific ELISA (#DYC4607E, R&D Systems). Percent inhibition comparing to blood samples from mice given vehicle alone are shown as averages.