Supplemental Figure 1. Imatinib inhibits medulloblastoma cell PDGFRB, Akt and Erk1/2 activation. Serum-starved medulloblastoma cells were first treated with increasing concentrations of imatinib or vehicle control ('0') for 1 h before stimulation with PDFG-BB (10 ng/ml). After an optimal dose of imatinib was identified, cells were treated with ('+') or without ('-') imatinib and PDGF-BB. Changes in target proteins and phosphorylation were detected by Western blot. **A,** Representative Western blot of imatinib-treated D556 cells shows reduced activation (phosphorylation) of PDGFRB and the downstream signal transduction effectors Akt and Erk1/2 in a dose-dependent manner compared to control cells stimulated with PDGF-BB. **B,** Representative Western blot of DAOY and D556 cells grown in full-serum (10 % FBS) and treated with vehicle or 1 uM imatinib, then stimulated with 10 ng/ml PDGF-BB shows an inhibitory effect of imatinib in DAOY cells more so than D556 cells on PDGFRB phosphorylation even in the presence of 10% FBS. **C**, Densitometry of multiple corresponding Western blots confirms significant inhibition of Akt and Erk1/2 phosphorylation in PDGF-BB stimulated D556 cells treated with 1 uM imatinib compared to untreated control cells. *, Indicates significance ($P < 0.01$). Results represent the mean ± the standard error of the mean of multiple experiments.

Supplemental Figure 2. Imatinib treatment results in increased PTEN expression in DAOY, but not D556 medulloblastoma cells. Representative Western blot shows that basal levels of total PTEN protein is higher in DAOY cells compared to the D556 cells. Imatinib treatment (0-1 uM) induces PTEN expression in DAOY cells, but not D556, in a

dose-dependent manner. GAPDH was used for loading control as this protein is unaffected by PDGF-BB stimulation or imatinib treatment.

Supplemental Figure 3. PDGFR forms heterodimers with EGFR and mediates EGFR transactivation following PDGF-BB stimulation in medulloblastoma cells. A, Representative full-length blot of PDGFRB-EGFR co-immunopreciptation in DAOY cells treated with ('+') or without ('-') 1 uM imatinib and PDGF-BB (10 ng/ml) stimulation shows that PDGF-BB stimulation induces PDGFRB heterodimers with p-EGFR that can be reduced by imatinib treatment relative to internal loading control. **B**, D556 cells were treated with increasing concentrations of imatinib or transfected with PDGFRB siRNA ('+') or negative control siRNA ('-') and stimulated with ('+') or without ('-') PDGF-BB (10 ng/ml) or EGF (50 ng/ml). Representative Western blots show that imatinib treatment eliminated PDGF transactivation of EGFR (upper panel), but has no effect on EGF direct activation of EGFR (middle panel), which is similar to that observed in D556 cells transfected with PDGFRB siRNA compared to control cells (lower panel).

Supplemental Figure 4. PDGFRB siRNA transfection abolishes total and phosphorylated PDGFRB expression in DAOY and D556 medulloblastoma cells. A and B, Representative Western blots of DAOY cells transfected with PDGFRB siRNA ('+') showed complete knock-down of total and phosphorylated PDGFRB protein expression, respectively, 48 h after transfection and stimulation with PDGF-BB (10 ng/ml) compared to cells transfected with a negative control (non-targeting) siRNA ('-'),

and which is similarly observed in **C,** D556 medulloblastoma cells, except that complete knock-down of PDGFRB total protein and phosphorylation was not achieved. **D and E,** Densitometric analysis of multiple corresponding Western blots confirms significant reduction in total and phosphorylated PDGFRB protein, respectively, 48 h after PDGFRB siRNA transfection in both DAOY and D556 cells compared to control transfected cells ($P < 0.05$). *, Indicates statistically significant reduction in total and phosphorylated PDGFRB expression in PDGFRB siRNA transfected cells compared to negative controls. Results represent the mean ± the standard error of the mean of multiple experiments.

Supplemental Figure 5. Caspase-3 activity does not change following imatinib treatment of medulloblastoma cells. Caspase-3 activity was measured by calorimetric assay (OD 405 nm) at 24 h and 48 h in DAOY and D556 cells after treatment with 1 uM imatinib (I) or negative control vehicle (V). Results were compared to a recombinant human caspse-3 enzyme positive control (+ve control) at 2, 1, .5, and .25 UNITS and with (‘+’) or without (‘-’) a caspase-3 inhibitor. As shown, the caspase inhibitor successfully inhibited the activity of the control caspase-3 enzyme; however, neither DAOY nor D556 cells exhibited detectable cleaved caspase-3 activity at 24 or 48 h after imatinib treatment compared to vehicle-treated controls.

Supplemental Figure 6. Caspase-8 activity does not change following imatinib treatment of medulloblastoma cells. Caspase-8 activity was determined with immunoflouresence labeling of DAOY and D556 cells that were grown to ~ 50% confluence, serum-starved over-night, then treated with (‘+) or without (‘-’) 1 uM

imatinib. Images were acquired using AxioVision System; magnification was 20X; and represent the 48 h time-point after a single dose of 1 uM imatinib treatment. Images show that while DAOY cells, relative to D556 cells, inherently exhibit more caspase-8 activity, there was no detectable difference in the activity of Caspse-8 between imatinib-treated and untreated control cells in either cell line at this time-point.