

1 **Table S1: Mean methylation for TK mutant GIST and pSDH wtGIST**

| Tumour ID | KIT/PDGF RA mutation status | SDH status | Germline gene mutation | Mean MGMT methylation% CpG 1-8 |
|-----------|-----------------------------|------------|---|--------------------------------|
| G0054 | KIT | SDHp | NA | 3% |
| G0064 | KIT | SDHp | KIT c.1924A>G (p.K642E) homozygous ;c.2466T>A, (p.N822K) | 1% |
| G0072 | KIT | SDHp | KIT c.1504_1509 dupGCCTAT p.(Ala502_Tyr503dup) | 3% |
| G0074 | KIT | SDHp | KIT c.1701_1728del p.(Asn567_Leu576delinsLysGlu) | 4% |
| G0075 | KIT | SDHp | KIT c.1509_1510insGCCTAT p.(Ser501_Ala502insAlaTyr) | 7% |
| G0101 | KIT | SDHp | KIT c.1669T>C p.(Trp557Arg) | 1% |
| G0103 | KIT | SDHp | KIT p.(Leu576Pro) | 3% |
| G0104 | KIT | SDHp | KIT c.1669_1674del p.(Trp557_Lys558del) | 4% |
| G0105 | KIT | SDHp | KIT p.(Trp557Arg) | 6% |
| G0106 | KIT | SDHp | KIT E11 mutation | 3% |
| G0112 | KIT | SDHp | KIT c.1668_1724del p.(Trp557_Thr574del) c.2460T>G p.(Asp820Glu) | 1% |
| G0113 | KIT | SDHp | KIT c.1738_1739insTAGACCCAACACAACCTCCTTATGATC p.(Ile571_Asp572insAspProThrGlnLeuProTyrAspLeu) | 1% |
| G0116 | KIT | SDHp | KIT c.1679T>A p.(Val560Asp) | 3% |
| G0145 | KIT | SDHp | KIT E11 deletion | 2% |
| G0146 | KIT | SDHp | KIT c.1668_16679delGTGGAAGGTTGTinsTTCCAC p.(Glu556_Val560_insHisSerThr) | 1% |
| G0264a2 | KIT | SDHp | KIT p.(Trp557Gly) SDHA c1A>C, (p.MET1?) (p.MET1?) | 2% |
| G0264b1 | KIT | SDHp | KIT p.(Val559Asp) | 2% |
| G0032 | NF1 | SDHp | NF1 c.7706dupA p.(His2569GlnfsTer6) | 3% |
| G0039 | NF1 | SDHp | NA | 3% |
| G0041 | NF1 | SDHp | NA | 2% |
| G0044 | NF1 | SDHp | NA | 3% |
| G0048b | NF1 | SDHp | NA | 2% |
| G0083 | NF1 | SDHp | NA | 5% |
| G0109 | NF1 | SDHp | NA | 4% |
| G0060 | PDGFRA | SDHp | PDGFRA c.2525A>T p.(Asp842Val) | 2% |
| G0061 | PDGFRA | SDHp | PDGFRA c.2526_2537delCATCATGCATGA p.(Asp842_His845del) | 6% |
| G0102 | PDGFRA | SDHp | PDGFRA c.1977C>G p.(Asn659Lys) | 4% |
| G0149 | PDGFRA | SDHp | PDGFRA p.(Val561Asp) | 2% |
| G0046 | Quad. | SDHp | NA | 3% |
| G0048a | Quad. | SDHp | NA | 3% |
| G0052 | Quad. | SDHp | NA | 4% |
| G0056 | Quad. | SDHp | NA | 1% |
| G0110 | Quad. | SDHp | NA | 1% |
| G0138 | NA | SDHp | NA | 4% |
| G0139 | NA | SDHp | NA | 4% |

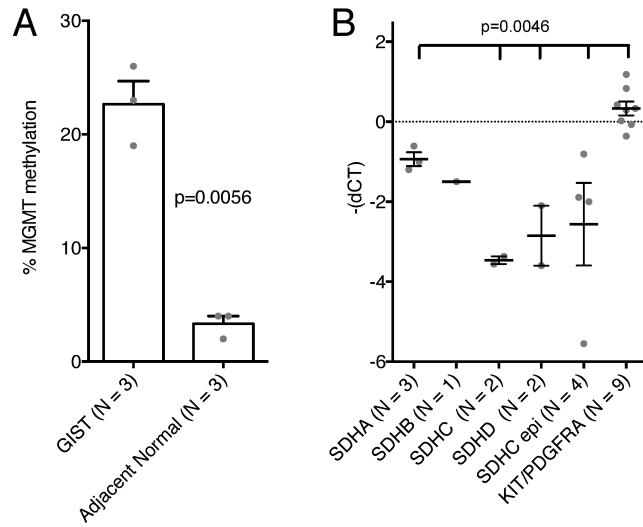
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3 **Table S2: Mean methylation in tumour and adjacent tissue**

| Sample ID | KIT/PDGFR mutation status | SDHp status | Germline gene mutation | Mean MGMT methylation % of tumour CpG 1-8 | Mean MGMT methylation % of adjacent normal CpG 1-8 |
|-----------|---------------------------|-------------|-------------------------|---|--|
| G0002N | - | SDHp | Adjacent normal of SDHd | 2% | 4% |
| G0003N | - | SDHp | Adjacent normal of SDHd | 23% | 4% |
| G0013N | - | SDHp | Adjacent normal of SDHd | 5% | 2% |
| G0017N | - | SDHp | Adjacent normal of SDHd | 3% | 5% |
| G0018N | - | SDHp | Adjacent normal of SDHd | 2% | 3% |
| G0019N | - | SDHp | Adjacent normal of SDHd | 5% | 4% |
| G0024N | - | SDHp | Adjacent normal of SDHd | 7% | 8% |
| G0044N | - | SDHp | Adjacent normal of NF1 | 3% | 10% |
| G0053N | - | SDHp | Adjacent normal of SDHd | 4% | 1% |
| G0054N | - | SDHp | Adjacent normal of KIT | 3% | 1% |
| G0074N | - | SDHp | Adjacent normal of KIT | 4% | 4% |
| G0081N | - | SDHp | Adjacent normal of SDHd | 2% | 2% |
| G0082N | - | SDHp | Adjacent normal of SDHd | 19% | 2% |
| G0083N | - | SDHp | Adjacent normal of NF1 | 5% | 11% |
| G0085N | - | SDHp | Adjacent normal of SDHd | 3% | 4% |
| G0086N | - | SDHp | Adjacent normal of SDHd | 3% | 3% |
| G0101N | - | SDHp | Adjacent normal of KIT | 1% | 4% |
| G0138N | - | SDHp | Adjacent normal | 4% | 6% |
| G0150N | - | SDHp | Adjacent normal of SDHd | 3% | 2% |
| G0151N | - | SDHp | Adjacent normal of SDHd | 26% | 4% |

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6 **Figure S1**

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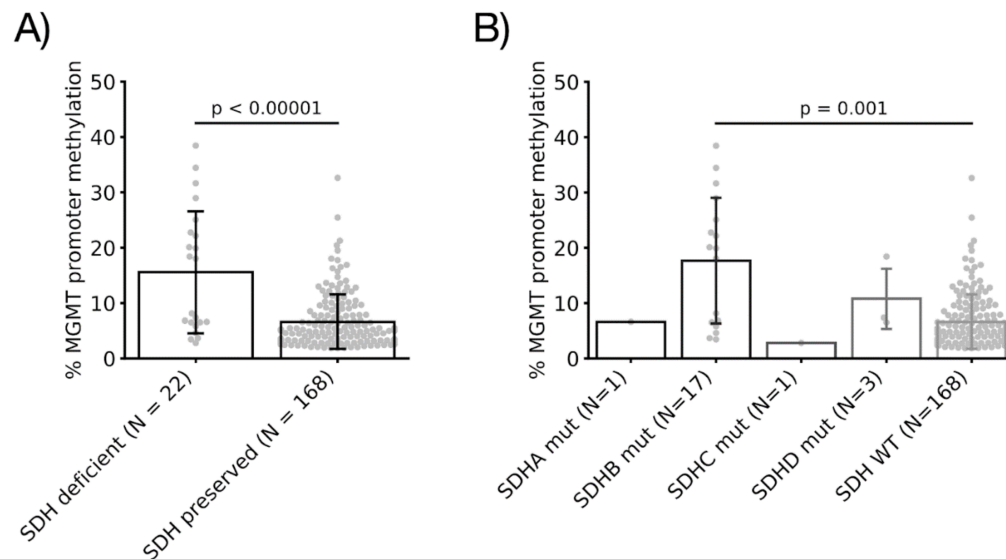
8 A) MGMT promoter methylation in GIST in comparison to adjacent normal tissue where elevated

9 methylation was observed in the tumour (N = 3; p=0.0056). B) Detailed listing of -dCT values in

10 GIST (q-RT-PCR). Kruskal-Wallis one way ANOVA for MGMT expression (SDHB excluded):

11 p=0.0046.

12 **Figure S2** (Related to Figure 2). MGMT promoter methylation for patients WT and mutant
 13 for SDH.
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17 A) PPGL patients deficient for SDH show an increased MGMT promoter methylation; p represents
 18 student's t-test. B) PPGL patients published by Hadoux et al show no differences between SDH
 19 mutant patients. Patients mutant for SDHB show an increase in MGMT promoter methylation
 20 compared to SDH WT. ANOVA $p < 0.001$; p represents multiple
 21 test corrected Tukey post-hoc.