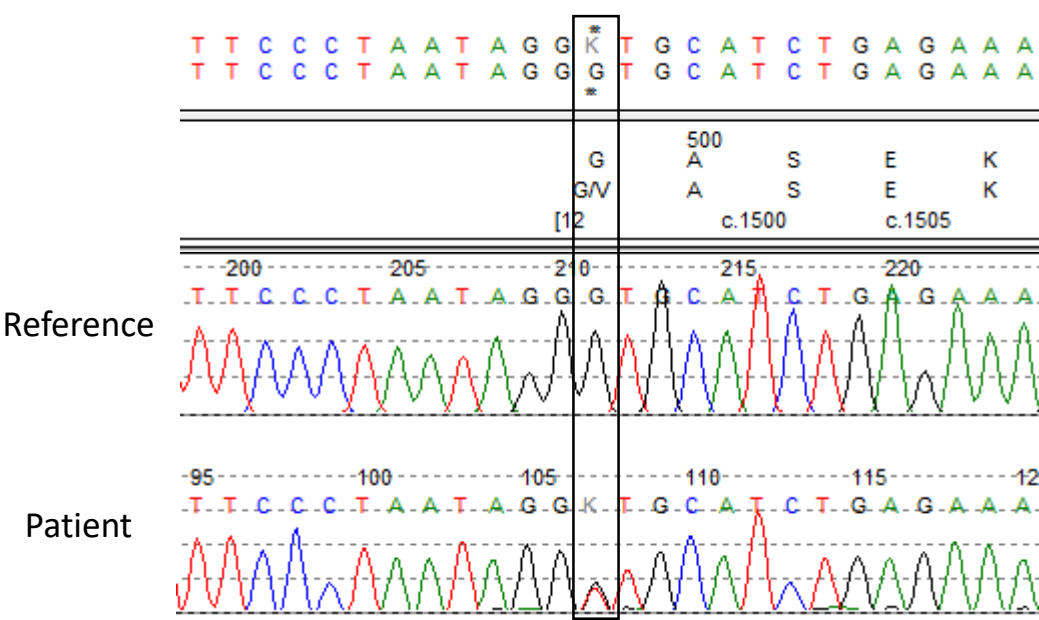


Supplemental Figure 1: **GLUD1** genomic DNA sequence. Analysis shows c.1496G>T variant in the DNA of the HI/HA patient



Supplemental Table: Potential energy calculated for opened and closed state of GDH-wt and GDH-G446V.

Genotype	Opened [kcal/mol]	Closed [kcal/mol]	Difference
GDH-wt	24'419	24'650	231
GDH-G446V	24'419	24'555	136 (59% of wt)

Supplemental Figure 2: Effects of the allosteric modulator GTP on GDH activity in EBV-transformed lymphoblasts from 4 control subjects; 2 males in their 6th (M50+) and 4th (M30+) decade of age and 2 females in their 3rd (F20+) and 5th (F40+) decade. Enzymatic assays were performed on lymphoblast homogenates using 5mM glutamate and 1mM ADP as allosteric activator in the presence of 1-100 μ M GTP.

