



Development of high resistant starch wheat that reduces glycemic (GI) index, chance of Type II diabetes and tumorigenesis and improve blood glucose level and microbiome.

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Conventional wheat-based foods contain high concentration of highly digestible starches that give high glycemic index (GI). It might contribute to metabolic disorder such as type II diabetes, colon cancer and cardiovascular disease. The main objective of this study was to determine the effect of high resistant starch (HRS, ~40%) on the post-prandial glycemic value in contrast to food made from conventional wheat containing low resistant starch (LRS, ~1%). Further, HRS wheat was explored to study the ameliorative effects of RS on type II diabetes and tumorigenesis. Both *In-vitro* and *In-vivo* study were designed for GI study of HRS wheat mutant. Six groups of C57BL6/J mice were included for GI study. Among 5 HRS wheat mutant with control 'C306' (LRS), two mutant 'TAC 28' and 'TAC 35' were found significantly low GI (~25-30% lower GI than 'C306') that were confirmed by *In-vivo*. Blood glucose level (BGL) and body weight of HRS line fed mice was lower than LRS line fed mice. To analyze the health response of these two mutants with control we preceded 15 days chronic



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