



Figure 21.2 Effects of TSA on the lifespan and locomotion of *D. melanogaster* males of two genotypes. (A) Mean lifespan \pm SE. (B) Mean locomotion \pm SE of 50 day-old flies. Lifespan and locomotion were measured according to ref. 106. Results of two independent life span measurements are combined (unpublished data). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

21.3.4 Suberoylanilide Hydroxamic Acid (SAHA)

One more HDACI that was shown to be able to extend life in fruit flies is suberoylanilide hydroxamic acid (SAHA). In *in vitro* studies, SAHA was found to have similar effects to SB, although at much lower effective doses.²⁵ This compound is known to induce growth arrest in transformed cells,⁶⁷ and it was shown to be effective in preventing Huntington's disease in various animal models.⁶⁸

In a recent study by McDonald and co-authors,⁵⁵ the effects of administration with SAHA throughout *D. melanogaster* health span, transition phase, and senescent span were studied. Treatment with SAHA during