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Amelioratory Effect of Dietary Ingestion of Lycopene and Tomato Rich in Lycopene on Learning Impairment in Senescence-Accelerated Mice (SAMP8)

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We previously reported that the dietary ingestion of red bell pepper (*Capsicum annuum* L.) which contained a large amount of antioxidative carotenoids ameliorated the age-related phenomena of learning disorder and degradation of hair glossiness in the senescence-accelerated mouse (SAM). As lycopene is one of the most popular carotenoids in human serum and exists in abundance in tomato, we examined the effects of dietary lycopene and tomato rich in lycopene on the age-related disorders in SAMP8//Kgm, a mouse model of accelerated decline in learning and memory, and control SAMR1//Kgm mice. SAMP8 mice that received a diet containing 0.02% (w/w) lycopene or 20% (w/w) tomato powder showed much better acquisition in passive avoidance tasks than those given the control diet. Dietary lycopene and tomato had no effect on the ability of learning and memory in SAMR1 mice. Those observations indicated that the dietary ingestion of lycopene in tomato ameliorated the learning impairment in SAMP8.

Keywords: [senescence-accelerated mouse \(SAM\)](#), [lycopene](#), [learning](#), [memory](#), [passive avoidance](#), [tomato](#)



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