S10-2 Anti-aging studies on the senescence accelerated mouse (SAM) strains

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Senescence accelerated mouse (SAM), a murine model of accelerated senescence, was established by Toshio Takeda (current position: The chairman of the Council for SAM Research) and colleagues. SAM consists of series of SAMP (Prone) and SAMR (resistant) lines. All SAMP lines (from SAMP1 to SAMP11) are characterized by accelerated accumulation of senile features, earlier onset and faster progress of age-associated pathological phenotypes, such as amyloydosis, impaired immune response, senile osteoporosis and deficits in learning and memory. These SAMP lines are used for evaluation of putative anti-aging therapies. For example, SAMP1 line is used to study the anti-aging effect of the antioxidant containing foods and purified anti-oxidants, such as coenzyme Q10, vitamin C, lycopene. SAMP8 line exhibited an early onset of impaired learning and memory is often used for test strategies for therapeutic intervention of dementia of early onset. SAMP6 is used as an animal model for developing new strategies for the treatment of osteoporosis in humans.

Various lines of SAM (P1, P6, P8, P10 and R1) are now commercially available from Sankyo Laboratory Service Co., Tokyo, Japan. In this symposium, I will briefly discuss about the availability of SAM in anti-aging research.