Reveromycin A, a "Magic Bullet" That Zeroes in on Osteoclasts

Osteoporosis is a disease of the bone in which bone mineral density is reduced due to a decrease in female hormones or increasing age. In other words, osteoporosis is a disease that causes bones to become porous because the function of the bone-destroying osteoclasts dominates that of the bone-forming cells. The disease is emerging as one of the big social issues with the advent of the aging society. The most popular medicine currently used to treat osteoporosis is an agent that represses the function of osteoclasts, but it has side-effects.

In cooperation with Prof. Woo of Chubu University, we have discovered a compound that induces apoptosis or self-destruction of osteoclasts. The name of the compound is "Reveromycin A," an antibiotic that was discovered by Dr. Osada, et al. in the microbe, actinomyces. It has been known that the antibiotic has the effect of repressing the proliferation of cancer cells.

Reveromycin A is, so to speak, a "magic bullet" that zeroes in on osteoclasts and destroys them. Reveromycin A is expected to serve as a new medicine used to treat osteoporosis, which has less side-effects and can prevent bone mass reduction much more efficiently than current popular medications.

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For more information, please contact:

RIKEN Public Relations Office
Email: koho@riken.jp