

Search for anti-aging drugs from ayurvedic and tropical plants

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Advanced glycation endproducts (AGEs), which readily form and accumulate with sustained hyperglycemia, contribute to the development of diabetic complications and, as such, are considered a potential therapeutic target. Some isolated compounds from two plants showed strong inhibitory activity toward AGEs formation, the inhibitory activity of a positive control, aminoguanidine, being 1.29 mM. The current results indicate that, in comparison with the reference compound, aminoguanidine, which once entered phase II clinical trials, but was withdrawn because of its side effects, flavonoid glycosides were clearly more efficient in inhibiting the formation of AGEs. Thus, these compounds seem to be worthy of consideration as potential therapeutic agents for diabetic complications and related diseases though additional biological evaluation. Among the isolated compounds, isolinariins C, D and E (**1**, **2** and **3**) showed inhibition toward AGE formation (IC_{50} values of 34.8, 35.0 and 19.5 μ M, respectively). Collagenase is an enzyme that is known to be a member of matrix metalloproteinase (MMP) family. The agents that inhibit collagenase may have beneficial effects for maintaining healthy skin by preventing dermal matrix degradation. Therefore, the isolated compounds were evaluated the collagenase inhibitory activity. The results showed that linariin (**4**) and pectolarin (**5**) exhibited weak inhibition with IC_{50} values of 79.4 and 78.6 μ M, respectively. Luteolin (**8**, 40.5 μ M) showed stronger inhibitory activity than that of a positive control, caffeic acid (an IC_{50} value of 120 μ M) as reported previously.