Antidiabetic effect of isopropylbenzaldehyde against rat intestinal α-glucosidase and lens aldose reductase

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The inhibitory activity of cumin seed-isolated component was evaluated against lens aldose reductase and α-glucosidase isolated from Sprague-Dawley male rats and compared to that of 11 commercially available components derived from cumin seed oil, as well as quercitrin as an aldose reductase inhibitor and acarbose as an α-glucosidase inhibitor.[1-6] The biologically active constituent of cumin seed oil was characterized as *p*-isopropylbenzaldehyde by various spectral analyses. The IC_{50} value of *p*-isopropylbenzaldehyde is 0.00085 mg/mL against aldose reductase and 0.5 mg/mL against α-glucosidase, respectively. Isopropylbenzaldehyde was about 1.8 and 1.6 times less in inhibitory activity than acarbose and quercitrin, respectively. Nonetheless, *p*-isopropylbenzaldehyde may be useful as a lead compound and a new agents for antidiabetic therapeutics.[7-11]

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