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Research Paper

PROCESS OPTIMIZATION FOR PREPARATION OF MULBERRY FRUIT EXTRACT TO INHIBIT ANGIOTENSIN CONVERTING ENZYME ACTIVITY

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ABSTRACT

A new processing approach to extract the bioactive components from mulberry fruit that can inhibit angiotensin converting enzyme (ACE) was explored in this study. The process conditions were optimized with Plackett-Burman experimental design, steepest ascent experiment and response surface methodology for mulberry fruit extract to have maximum ACE inhibition rate. Results indicated that the factors that influence the extraction of ACE-inhibitor were the mass concentration of mulberry fruit, extraction time and ultrasonic power. The optimized process conditions were as follows: mulberry fruit concentration of 6.17 g/l, ultrasonic power of 87 W and extraction time of 70 min. The mulberry fruit extract of ACE inhibitor obtained under the above optimal conditions was capable of bringing about an inhibition rate up to 82.77 %.

Key words: Angiotensin converting enzyme, extract, mulberry fruit, process condition.