

抗酸化作用を有する多糖類の徐放性基材への応用

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Polysaccharides as potential antioxidative compounds for extended-release matrix tablets

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ABSTRACT: The antioxidant properties of five different polysaccharides, high molecular weight alginate (H-ALG), low molecular weight alginate (L-ALG), high molecular weight chitosan (H-CH), low molecular weight chitosan (L-CH), and pectic acid (PA) were examined using N-centered radicals from DPPH and ABTS and reducing power, based on their ability to reduce Cu^{2+} . L-CH and PA had acceptable scavenging abilities and were good radical scavengers, with good reducing power, but the H-CH and alginate derivatives were much less effective. The results suggest that L-CH and PA could be useful in combating oxidative stress. The release of theophylline (TPH) from the matrix tablet (TPH/PA/L-CH = 200 mg:150 mg:50 mg) was slower than that from PA only (TPH/PA/L-CH = 200 mg:200 mg:0 mg) or L-CH only (TPH /PA /L-CH = 200 mg:0 mg:200 mg) tablet. These results suggest that L-CH/PA complex would be potentially useful in an extended-release interpolymer complex tablet with high antioxidant activity.

抄録 キトサン、アルギン酸、ペクチン酸の抗酸化作用について検討し、これら多糖類の組み合わせによる抗酸化作用を有する多糖類の徐放性製剤基材への応用を試みた。キトサン及びペクチン酸は高い抗酸化作用を有することが明らかとなった。さらに、これら2種の多糖類と薬物との物理混合錠において顕著な徐放性を示し、キトサン・ペクチン酸混合物は抗酸化作用を具備する徐放性基材として極めて有用であることが示唆された。

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