

# Preparasi dan karakterisasi eksipien maltodekstrin suksinat yang digunakan dalam film cepat hancur salbutamol sulfat = Preparation and characterization of maltodextrine succinate as excipient used in salbutamol sulfat fast disintegration film

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## Abstrak

**ABSTRAK**  
Film cepat hancur merupakan suatu bentuk sediaan padat yang larut atau hancur dalam 1 menit dalam rongga mulut dengan adanya air liur tanpa minum atau dikunyah. Penelitian ini bertujuan untuk membuat dan mengkarakterisasi sediaan film cepat hancur salbutamol menggunakan maltodekstrin suksinat sebagai eksipien. Maltodekstrin suksinat yang diperoleh dari suksinilasi maltodekstrin menggunakan anhidrida suksinat memiliki derajat substitusi  $0,18 \pm 0,01$ ; pH (5% larutan dalam akuades)  $6,76 \pm 0,03$ ; kadar air  $7,33 \pm 0,21$  %; ukuran partikel 355 – 710  $\mu\text{m}$ ; laju alir  $4,51 \pm 0,301$  g/detik; indeks mengembang selama 4 menit 17,99%; viskositas (25%) 29,14 cps. Film cepat hancur yang menggunakan maltodekstrin suksinat 5% memberikan bobot  $24,16 \pm 2,1$  mg; ketebalan  $101,5 \pm 5,025$   $\mu\text{m}$ ; waktu hancur  $41,5 \pm 5,5$  detik; kadar air  $50,66 \pm 0,09$  %; kadar salbutamol sulfat  $2,10 \pm 0,03$  mg/film; pH  $5,87 \pm 0,03$ ; pelepasan obat selama 1 menit  $105,43 \pm 0,68$ %; tensile strength  $7,097 \pm 0,582$  kg/cm<sup>2</sup>; elongasi  $1,5 \pm 0,1$  %; fluks penetrasi rata-rata 1,314  $\mu\text{g}/\text{cm}^2.\text{menit}$ ; sesuai uji kesukaan 66,67% responden menyukai penampilan film; 13,33% responden menyukai rasa film serta waktu hancur rata-rata sebesar  $13,47 \pm 3,23$  detik. Dapat disimpulkan bahwa eksipien maltodekstrin suksinat dapat digunakan sebagai eksipien pembentuk film cepat hancur.

**ABSTRACT**  
Fast disintegration film was the solid dosage form which dissolve or disintegrate in 1 minute with saliva without water or chewing. The purposes of this research were to prepare and characterize of salbutamol fast disintegration film containing maltodextrin succinate as an excipient. Maltodextrine succinate was obtained from succinilation of maltodextrine using succinat anhidride. The maltodextrine succinate had the characterized as follows : degree of substitution (DS),  $0.18 \pm 0.01$ ; pH (5% in aquadest),  $6.76 \pm 0.03$ ; moisture content,  $7.33 \pm 0.21$ %; particle size, 355-710  $\mu\text{m}$ ; flow rate,  $4.51 \pm 0.31$  g/secon; swelling index 17.99% and viscosity (25%) 29.14 cps. The fast disintegration film that containing maltodextrine succinate 5% had weight  $24.16 \pm 2.1$  mg; thickness,  $101.5 \pm 5.025$   $\mu\text{m}$ ; disintegration time,  $41.5 \pm 5.5$  secon; moisture content,  $50.66 \pm 0.09$ %; assay,  $2.10 \pm 0,03$  mg/film; pH,  $5.87 \pm 0.03$ ; in vitro drug release, 1 minute,  $105.43 \pm 0.68$  %; tensile strength,  $7.007 \pm 0.582$  kg/cm<sup>2</sup>; elongation,  $1.5 \pm 0.1$ %; penetration flux 1.314  $\mu\text{g}/\text{cm}^2.\text{minute}$ . According to hedonic test, 66.67% like the film appearance , 13.33% like the flavour, and disintegration time

were  $13.47 \pm 3.23\%$ . The result of this study showed that maltodextrine succinate can be used as excipient for fast disintegration film .