

ABSTRACT

The present invention provides a novel dry powder inhalation system suitable for transpulmonary administration.

5 The dry powder inhalation system of the present invention characterized by using a combination of:

(1) a vessel housing a freeze-dried composition prepared by freeze-drying a composition liquid containing ingredients in a non-dissolved form, and has:

- 10 (i) a non-powder cake-like form,
(ii) a disintegration index of 0.05 or more, and
(iii) a property of becoming fine particles having a mean particle diameter (mass median aerodynamic diameter) of 10 microns or less or a fine particle fraction of 10% or more upon
15 receipt of an air impact having an air speed of at least 1 m/sec and an air flow rate of at least 17 ml/sec; and

(2) a device comprising a member capable of applying said air impact to the freeze-dried composition in said vessel, and a member for discharging the powder-form freeze-dried
20 composition that has been made into fine particles.