diameter of 11 mm, an inner diameter of 6 mm and a height of 4 mm. The rupture membrane is a thin film (20 μm) made of semi-transparent polycarbonate. Each cassette is loaded with 1 mg powder containing 25 μg or less vaccine.

Immunization. BALB/c mice (female, 6 weeks old; Harlan Sprague Dawley, Indianapolis, Indiana) were used. Mice were fully anesthetized by intraperitoneal injection of ketamine and xylazine, and their abdominal skin was shaved using a hair-clipper before powder delivery. For EI, the PowderJect ND device was placed against the shaved abdominal skin of the mice and the 'actuation' button was pressed. Control mice were injected with aqueous vaccine using a 26.5-gauge needle. The subcutaneous injection was given in the scruff of the neck and the intramuscular injection was made in the upper thigh.

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Manipulation of Results	Simple objective	Simple objective	Difficult objective	Simple objective	Objective	Subjective
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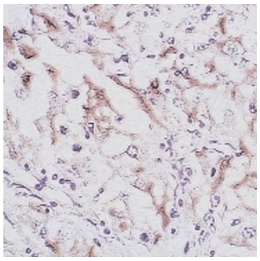

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