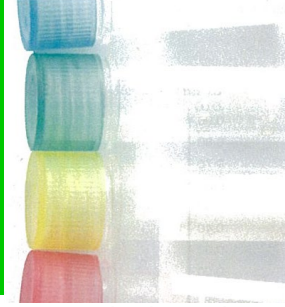
# Low sample adsorption
# ProteoSave™



15 mL & 50 mL tubes

96F & 96U plates

96 deep well plate

0.5 mL & 1.5 mL microtubes

ProteoSave™ Products reduce the adsorption of biological samples such as peptides and proteins because its surface is coated with hydrophilic polymer. It is widely used in biological research and applications such as biomarker discovery.

Here, as a new ProteoSave™ application, we introduce the recovery of spores of a plant pathogenic fungus, *Colletotrichum orbiculare,* which causes anthracnose disease on plants. Members of *Colletotrichum* species are devastating pathogens that infect various crops and cause severe damage to plants. The spores of these pathogens are known to have adhesive properties due to the presence of polysaccharides and glycoproteins, making them more likely to adhere to the leaves of host plants.

By using ProteoSave™ for the recovery of sticky spores like those of *Colletotrichum* species, improved sample recovery efficiency can be expected.

# Application of fungal spore analysis
## Comparison data of fungal spore recovery

Data provided by Dr. Naoyoshi Kumakura, Plant Immunity Research Group, RIKEN Center for Sustainable Resource Science, Yokohama, Japan

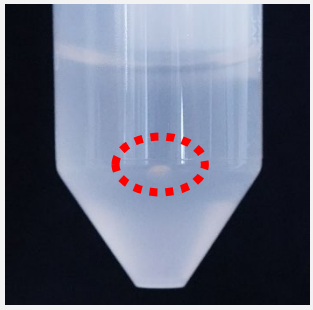
## ①spore pellets

**Materials and methods**

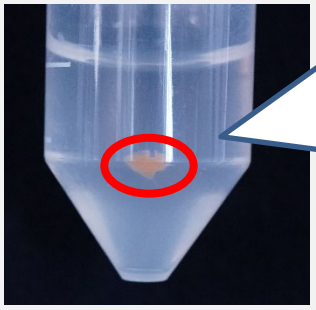
Tube: ProteoSave™ 50mL
Conventional tube 50mL

Sample: *Colletotrichum orbiculare* spore suspension

Method: Add 10 mL sample to centrifuge tube
Centrifuge at 3,000g for 5min



**Conventional tube 50mL**



**ProteoSave™ SS 50mL**

**In conventional tube, the spores were spread over a wide area and the pellets were hardly visible, but in ProteoSave™, pink pellets could be clearly observed.**

## ② Comparison of spore recovery rates (SRR)

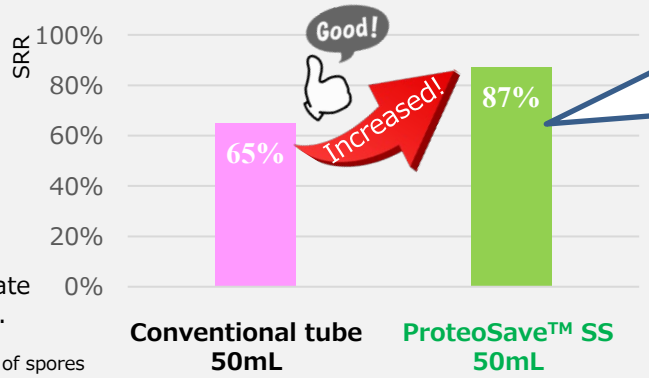
**Materials and methods**

Tube: ProteoSave™ 50mL
Conventional tube 50mL

Sample: *Colletotrichum orbiculare* spore suspension

Method: After centrifuge from method①, resuspend the sample in water, transfer to a new tube and calculate the average spore recovery rate*. (n=4)

*SSR=total number of spores recovered / total number of spores initially contained in 10 mL suspension*100




**ProteoSave™ had an increased spore recovery rate compared to ordinary products.**

***ProteoSave™ paper (for fungal study)**

Please refer to the article by Dr. Naoyoshi Kumakura, who provided the data:
https://elifesciences.org/articles/81302

Click here for a paper on the use of ProteoSave™ Plate 96F for fungicide tests (time-kill curve assays) on fungi of the *Aspergillus* that cause infections of the lungs: https://journals.asm.org/doi/epub/10.1128/aac.02689-18

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