CORRECTIONS

Vol. 154: 1549–1557

Fang W. and St. Leger R.J. (2010) *Mrt*, a Gene Unique to Fungi, Encodes an Oligosaccharide Transporter and Facilitates Rhizosphere Competency in *Metarhizium robertsii*.

The authors regret that the sugar labeling technique employed in this study (labeling sugars with 2-anthranilic acid) would not label Suc and raffinose family oligosaccharides as described. The fluorescent signal we found in the hyphae was due to contaminants in the raffinose purchased from Fisher Scientific (Chemical Abstracts Service no. 17629-30-0; lot no. B0123068). Therefore, we withdraw the data obtained with labeled sugars (p. 1550, Figs. 1 and 2) and relevant sections ("Discussion": p. 1553; "Materials and Methods": p. 1555). We were unable to find isotope-labeled heterologous oligosaccharides when the original manuscript was prepared. ^{3}H-labeled raffinose is now supplied by American Radiochemicals.

The original growth experiments showed that MRT (for *Metarhizium* raffinose transporter) was the sole transporter for heterologous oligosaccharides (see Table I in original article). To substitute for the withdrawn data (regarding labeled sugars), we compared the transportation activity of the wild-type strain versus the *Mrt* mutant (*ΔMrt*) using mass spectrometry (ionization mode: ESI−). Fungal spores were inoculated into minimal medium containing 1% raffinose as sole carbon source, and mycelia (4 g wet weight) were collected by filtration, washed with sterile water three times, and transferred into 100 mL of minimal media containing each of three heterologous oligosaccharides (raffinose, stachyose, and melezitose). After incubation at 27°C for 20 min, mycelia were collected, washed four times with sterile water, and the sugars extracted as described (Kuo et al., 1988). All three oligosaccharides were detected in the wild-type strain but not in the *Mrt* mutant strain (Fig. 1), suggesting that MRT is the only transporter for heterologous oligosaccharides. To further assess MRT specificity, raffinose uptake was assayed in the presence of a 10-fold excess of other sugars used as competitors. Endocellular raffinose was not detected when mycelia were incubated with an excess of stachyose and Suc, suggesting that they completely inhibited the transportation of raffinose by MRT. Stachyose but not Suc was detected in mycelia (Fig. 2). Uptake of raffinose was not blocked by an excess of Glc, Gal, and trehalose, but these sugars were not detected in mycelia (Fig. 2). This could be because Glc, Gal, trehalose, and Suc were quickly metabolized.

LITERATURE CITED

Kuo TM, Van Middlesworth JF, Wolf WJ (1988) Content of raffinose oligosaccharides and sucrose in various plant seeds. J Agric Food Chem **36:** 32–36

www.plantphysiol.org/cgi/doi/10.1104/pp.111.900411

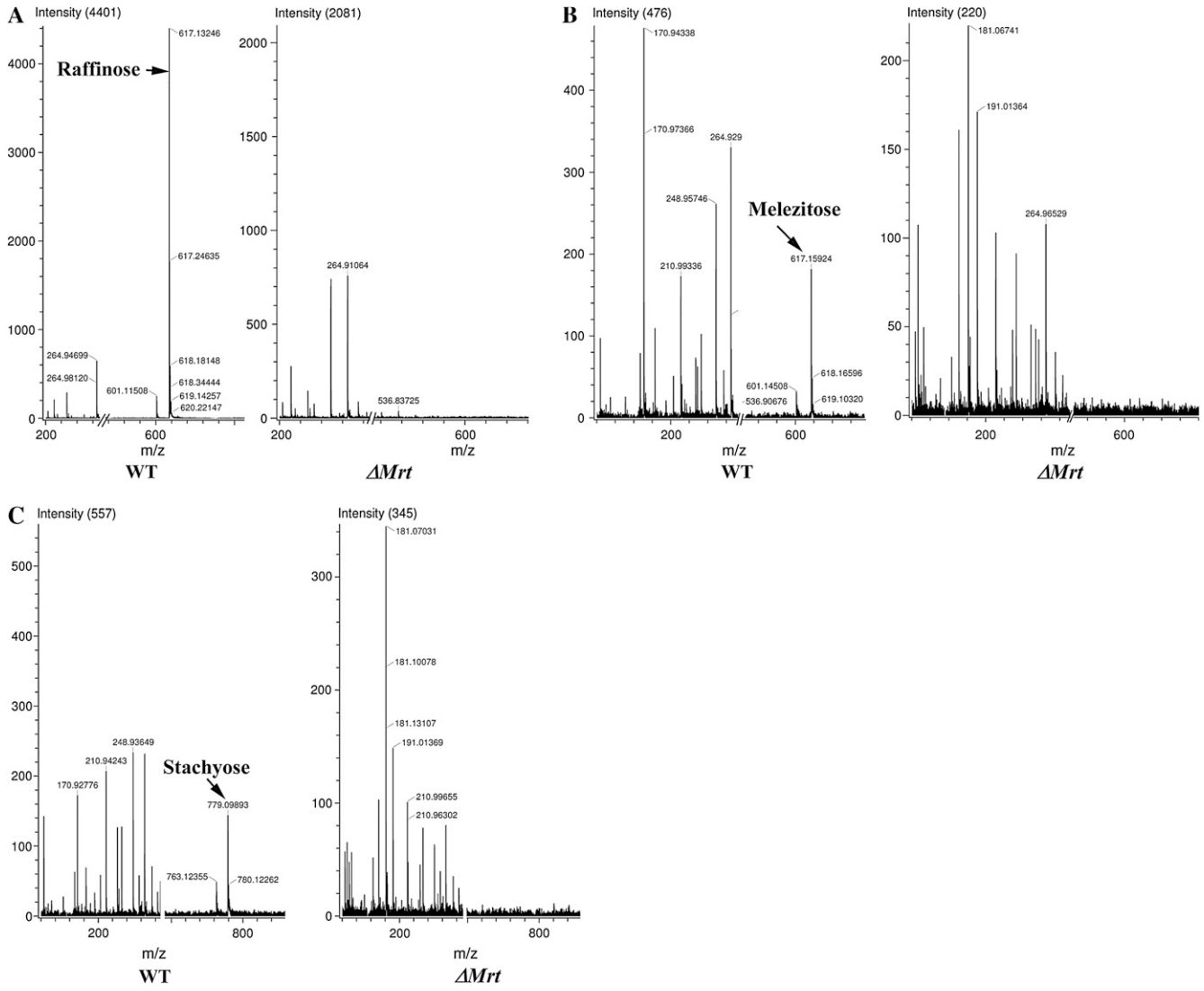

Figure 1. Uptake assays of heterologous oligosaccharides by the wild type (WT) and the *Mrt* disruption mutant (*ΔMrt*). A, Raffinose. B, Melezitose. C, Stachyose.

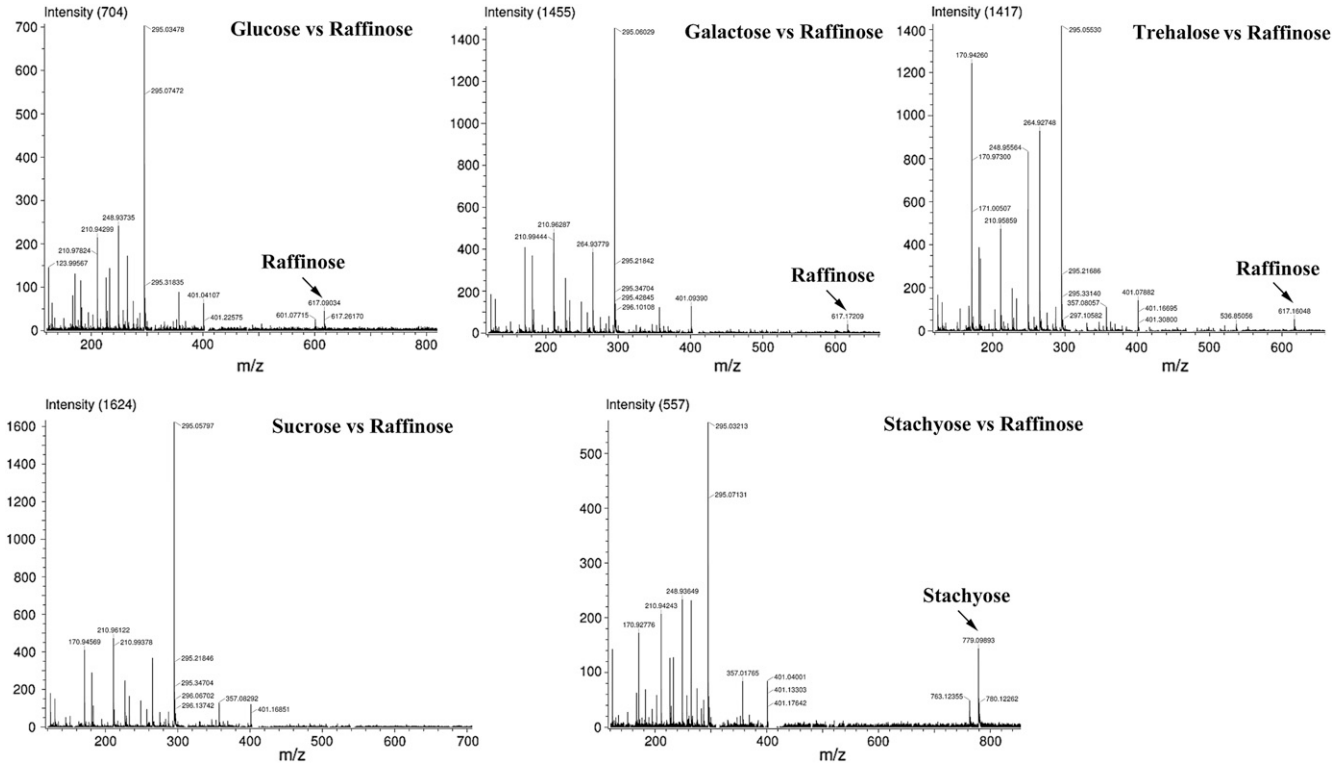

Figure 2. Competition assay. Hyphae expressing MRT were incubated with a 10-fold excess of each competitor 5 min prior to adding raffinose (0.1%). Inhibitions were indicated by the absence of raffinose.