

***Grifola frondosa* (Dicks: Fr.) S.F. Gray****Maitake Mushroom Fruiting****Body (Sporocarp)*****Polyporaceae***

Maitake is one of the most popularly used of herbal food supplements for immune support while undergoing conventional therapies for cancer. Although some data support this use, well-designed clinical trials are few. Like many of the immune supportive mushrooms, maitake is rich in a polysaccharide beta-glucan fraction known as D-fraction. Both the fruiting body and mycelium biomass of this species are used. This microscopic characterization was developed from the fruiting body.

**Surface view (paradermal section) of upper cap:** Network of dark hyphae.

**Longitudinal radial section:** Monomitic, composed of septate generative hyphae with clamps; upper surface of cap is dark and hyphae are radially oriented, with some curved upward and protruding obliquely from the surface; hyphae directly beneath the surface are narrow and, densely packed; in the central region, they are shorter,

thicker, and more loosely packed (aeroplect); toward the tubes, the hyphae again become more densely packed; these three zones of hyphae are indistinct and vary with the thickness of the cap body (trama); colorless cap interior, all hyphae having slightly green inclusions and septae; tubes are usually perpendicular to the surface of the cap, but the orientation may vary because the tubes grow with a vertical orientation with respect to the ground and not all caps are held parallel to the ground.

**Longitudinal tangential section:** Cap interior consists of a very loose network of hyphae having large spaces between hyphal strands (aeroplect); the tubes are formed from narrow, irregularly arranged hyphae; basidiospores are elliptical, up to 6  $\mu\text{m}$  in length, with a smooth surface and a light green inclusion and they may be rare.

**Transverse section:** Tubes are lined with an irregular network of hyphae that may protrude into the pore lumen.

**Powder:** Fragments of outer and inner layer of hyphae, calcium oxalate crystals among hyphae.

