

## 【ノート】

紫外線照射によるタモギタケの孢子欠損性変異の誘発

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Induction of sporulation-deficient mutations in *Pleurotus cornucopiae* var. *citrinopileatus* by UV irradiation

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## [Abstract]

*Pleurotus cornucopiae* var. *citrinopileatus* protoplasts derived from a wild-type dikaryotic strain were irradiated with UV light to obtain mutants displaying sporulation-deficient (sporeless) phenotypes. From a total of 5,566 regenerated dikaryotic mycelia obtained after UV treatment, six were shown to be mutants with sporulation-deficient traits. Based on the survival rate, the suitable irradiation dose was estimated to be 19.0–24.7 mJ/cm<sup>2</sup>. It was confirmed that five mutants maintained a sporulation-deficient phenotype after subculturing three times at intervals of approximately one week. Furthermore, it was presumed that three of the mutants had a sporeless trait that arose as a dominant mutation from one nucleus of the original dikaryotic strain. In contrast, one mutant had a dominant mutation in the other nucleus, but the defect in the one remaining mutant could not be determined. The mutants obtained at a high irradiation dose (24.7 mJ/cm<sup>2</sup>) had a much lower spore germination rate than the other mutants. The sporeless mutants obtained from this study formed fewer than 0.1% of the number of spores formed by the wild strains.

**Key words:** *Pleurotus cornucopiae* var. *citrinopileatus*, Spore germination, Sporogenous, Sporulation-deficient (sporeless) mutant, UV irradiation

## [摘要]

タモギタケの野生型二核系統由来のプロトプラストに紫外線照射して変異を誘発した結果、5,566の再生菌糸体のうち6個体が孢子欠損性変異株であった。二核菌糸体の生存率を算出した結果から、好適な誘発条件は放射線量19.0–24.7 mJ/cm<sup>2</sup>と考えられた。孢子欠損性変異株6個体のうち、5個体は3回の継代培養後

においても、孢子欠損性変異の表現型が維持された。これらの5個体の変異株についてダイ・モン交配を行い、変異形質の優劣性を検討した結果、1個体が $A_1 B_1$ 核の優性遺伝、3個体は $A_2 B_2$ 核の優性遺伝であることが推定されたが、残り1個体は不明であった。紫外線の放射線量が多い条件 ( $24.7 \text{ mJ/cm}^2$ ) で得られた変異株の孢子発芽率は、他の変異株やそのダイ・モン交配株に比べ顕著に低かった。なお、変異株の孢子形成能は野生型の1/1000以下であった。