

Fungal polyketide synthases

Currently, polyketide synthases (PKSs) of the basidiomycete BY1 are investigated. This fungus belongs to the shelf fungus family of mushrooms, but has taxonomically not been determined yet. The genome of BY1 encodes both reducing and non-reducing PKSs. The enzyme PPS1 represents the first basidiomycete reducing PKS to be characterized. It catalyzes the production of antilarval polyene pigments in response to physically damaged mycelium. The enzymes PKS1 and PKS2 are non-reducing PKSs and catalyze formation of orsellinic acid as the aromatic moiety of the prenylphenole cloquetin. PKS1 and PKS2 are among the first characterized PKSs of basidiomycete origin as well. The project is carried out in cooperation with the department Biomolecular Chemistry, led by Professor Christian Hertweck.

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