Fungal natural products targeting chronic lymphocytic leukemia - DTU Orbit (16/05/2019)

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Chronic lymphocytic leukemia (CLL) is the most common leukemia in adults from the western world. No curative treatments of CLL are presently known so the treatment strategy today is primarily to prolong patient survival, why we have initiated new activities towards discovery of novel compounds with potential tumor specificity. Our starting point is a diverse fungal collection of thousands of Penicillium and Aspergillus species. These fungi have proven to be a very rich source of various bioactive compounds and yet our dereplication investigations have demonstrated that there are still numerous unknown compounds to be identified within these species.

Until now we have found that 11 out of 289 fungal extracts are active against CLL cells. Using our established chemotaxonomic discovery approach we have dereplicated and fractionated these extracts to track the activity into single fractions/compounds. This includes analysis of the spectroscopic data generated from LC-DAD-MS to reveal whether the active principles are either structurally known compounds or are likely to be novel compounds. This paper will illustrate our integrated discovery approaches and recent findings of anti-leukemia compounds.

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