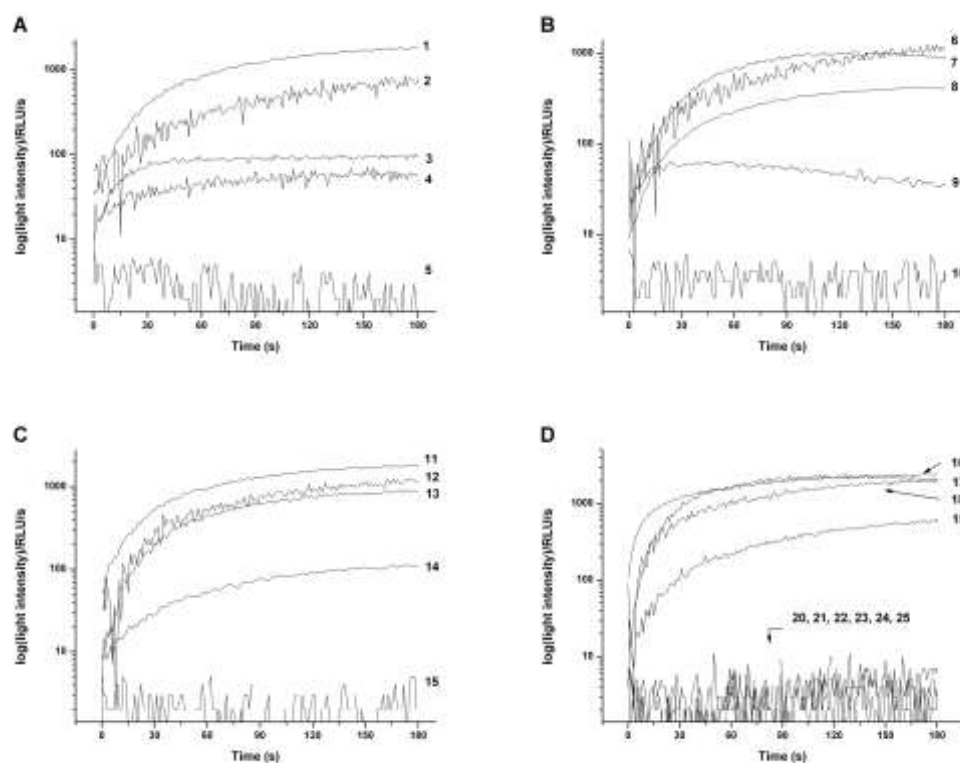


Table S1. Cross-reactivity of hot/cold extracts prepared from the four known fungal bioluminescent lineages.

Assay	Hot extract source ^a	Cold extract source ^b	Light emission
1	<i>Armillaria mellea</i>	<i>Mycena luxaeterna</i>	Yes
2	<i>Armillaria mellea</i>	<i>Neonothopanus gardneri</i>	Yes
3	<i>Armillaria mellea</i>	<i>Armillaria mellea</i>	Yes
4	<i>Armillaria mellea</i>	<i>Gerronema viridilucens</i>	Yes
5	<i>Armillaria mellea</i>	<i>Filoboletus gracilis</i>	No
6	<i>Neonothopanus gardneri</i>	<i>Neonothopanus gardneri</i>	Yes
7	<i>Neonothopanus gardneri</i>	<i>Mycena luxaeterna</i>	Yes
8	<i>Neonothopanus gardneri</i>	<i>Gerronema viridilucens</i>	Yes
9	<i>Neonothopanus gardneri</i>	<i>Armillaria mellea</i>	Yes
10	<i>Neonothopanus gardneri</i>	<i>Filoboletus gracilis</i>	No
11	<i>Gerronema viridilucens</i>	<i>Mycena luxaeterna</i>	Yes
12	<i>Gerronema viridilucens</i>	<i>Neonothopanus gardneri</i>	Yes
13	<i>Gerronema viridilucens</i>	<i>Armillaria mellea</i>	Yes
14	<i>Gerronema viridilucens</i>	<i>Gerronema viridilucens</i>	Yes
15	<i>Gerronema viridilucens</i>	<i>Filoboletus gracilis</i>	No
16	<i>Mycena luxaeterna</i>	<i>Armillaria mellea</i>	Yes
17	<i>Mycena luxaeterna</i>	<i>Mycena luxaeterna</i>	Yes
18	<i>Mycena luxaeterna</i>	<i>Neonothopanus gardneri</i>	Yes
19	<i>Mycena luxaeterna</i>	<i>Gerronema viridilucens</i>	Yes
20	<i>Mycena luxaeterna</i>	<i>Filoboletus gracilis</i>	No
21	<i>Filoboletus gracilis</i>	<i>Gerronema viridilucens</i>	No
22	<i>Filoboletus gracilis</i>	<i>Armillaria mellea</i>	No
23	<i>Filoboletus gracilis</i>	<i>Neonothopanus gardneri</i>	No
24	<i>Filoboletus gracilis</i>	<i>Mycena luxaeterna</i>	No
25	<i>Filoboletus gracilis</i>	<i>Filoboletus gracilis</i>	No

^{a,b} see materials and methods for details



FigureS1. Light emission profile obtained with the chemiluminescence assay with the four known lineages of bioluminescent fungi. Light intensity time courses obtained with *A. mellea*, *G. viridilucens*, *N. gardneri*, *M. luxaeterna* and *F. gracilis* (control, non-luminescent). Reactions were initiated by the addition of NADPH. [NADPH] = 100 mM, [BSA] = 140 mgL⁻¹, hot extract: 50 μL, cold extract: 200 μL, final volume: 350 μL. Numbers in the plot refer to combination of cold/hot extracts mentioned in Table S1.