

FULL TEXT LINKS



[Molecules](#). 2015 Jul 31;20(8):13927-40. doi: 10.3390/molecules200813927.

## Cordyceps militaris (L.) Link Fruiting Body Reduces the Growth of a Non-Small Cell Lung Cancer Cell Line by Increasing Cellular Levels of p53 and p21

Ana Bizarro <sup>1 2</sup>, Isabel C F R Ferreira <sup>3</sup>, Marina Soković <sup>4</sup>, Leo J L D van Griensven <sup>5</sup>,  
Diana Sousa <sup>6 7 8</sup>, M Helena Vasconcelos <sup>9 10 11</sup>, Raquel T Lima <sup>12 13 14</sup>

Affiliations

PMID: 26263965 PMID: PMC6332316 DOI: [10.3390/molecules200813927](https://doi.org/10.3390/molecules200813927)

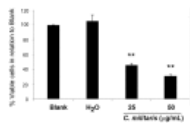
### Abstract

*Cordyceps militaris* (L.) Link, an edible entomopathogenic fungus widely used in traditional Chinese medicine, has numerous potential medicinal properties including antitumor activity. The methanolic extract of *C. militaris* fruiting body was recently shown to have tumor cell growth inhibitory activity in several human tumor cell lines. Nonetheless, the mechanism of action involved is still not known. This work aimed at further studying the effect of the methanolic extract of *C. militaris* regarding its antitumor mechanism of action, using the non-small cell lung cancer cell line (NCI-H460) as a model. Results showed that treatment with the extract decreased cellular proliferation, induced cell cycle arrest at G0/G1 and increased apoptosis. In addition, the extract increased the levels of p53 and p21. Moreover, an increase in p-H2A.X and 53BP1 levels, together with an increase in the number of 53BP1 foci/cell (all indicative of DNA damage), were also observed after treatment with the extract. This work suggests that this extract affected NCI-H460 cellular viability through a mechanism involving DNA damage and p53 activation. This further supports the potential of this extract as a source of bioactive compounds, which may be used in anticancer strategies.

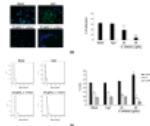
**Keywords:** *Cordyceps militaris* methanolic extract; DNA damage; cell cycle arrest; p21; p53.

[PubMed Disclaimer](#)

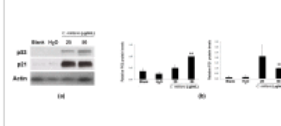
### Figures



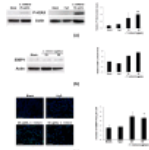
**Figure 1** Effect of *C. militaris* methanolic...



**Figure 2** Effect of *C. militaris* methanolic...



**Figure 3** Expression of p53 and p21...



**Figure 4** Effect of treatment with C....

## Related information

[PMC images](#)

[PubChem Compound \(MeSH Keyword\)](#)

## LinkOut - more resources

### Full Text Sources

[Europe PubMed Central](#)

[MDPI](#)

[PubMed Central](#)

### Other Literature Sources

[scite Smart Citations](#)

### Medical

[Genetic Alliance](#)

[MedlinePlus Health Information](#)

### Research Materials

[NCI CPTC Antibody Characterization Program](#)

### Miscellaneous

[NCI CPTAC Assay Portal](#)