**A fraction of** *Prunella vulgaris* **spikes inhibits neutrophil elastase and protects mice from lipopolysaccharide-induced acute lung injury.**

Huang-Ping Yu1,2,†, Chieh-Lun Cheng3,†, **Kowit-Yu Chong**4,5,6**,** Yu-Ling Huang3, Kung-Ju Chen3,4, Yu-Li Chen3, Pei-Wen Hsieh1,3,4,7\*

1Department of Anesthesiology, Chang Gung Memorial Hospital, Linkou, Taiwan. 2School Medicine, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

3Graduate Institute of Natural Products, School of Traditional Chinese Medicine, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

4Graduate Institute of Biomedical Sciences, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

5Department of Medical Biotechnology and Laboratory Science, College of Medicine, Chang Gung University, Taoyuan, Taiwan.

6Department of Thoracic Medicine, Chang Gung Memorial Hospital, Linkou, Taiwan.

7Research Center for Chinese Herbal Medicine, Chang Gung University of Science and Technology, Taoyuan, Taiwan

†These authors contribute equally to this work and are considered as co-first authors.

**Corresponding author:**

Pei-Wen Hsieh, Ph.D.

Professor

Graduate Institute of Natural Products, School of Traditional Chinese Medicine, Chang Gung University

259 Wen-Hwa 1st Road, Kwei-Shan, Taoyuan 333, Taiwan

Phone: +886-3-2118800 ext.3105

Email: [pewehs@mail.cgu.edu.tw](mailto:pewehs@mail.cgu.edu.tw)

**Supporting information**

ITS and *psb*A-*trn*H sequences obtained from *Prunell vilgaris* spikes were shown as following:

ITS sequence:

ggatcattgtcgaaacctgcaaaagcagaccgcgaacacgtgcttaactacacggcgcgcggcgcgggggacgcgagtctccccgtcgTgcgctgaatccccgccggcgcgctccCtcgggtcgcgtcgttcgggctaacgaaccccggcgcggaatgcgccaaggaaaacttaacgaagcgtccgcatccccgcagcccgtccgcggaacctgcggggggaccggtcgtctatcataatgtcaaaacgactctcggcaacggatatctcggctctcgcatcgatgaagaacgtagcgaaatgcgatacttggtgtgaattgcagaatcccgtgaaccatcgagtctttgaacgcaagttgcgcccgaagcctttaggccgagggcacgtctgcctgggcgtcacgcatcgcgtcgccccacctcaccgcgcacgaacgtgccggcgagtggggcggatattggccccccgtgcgcctcggcgtgcggtcggcccaaatgcgat

ccctcggcgactcgtgtcgcgactagtggtggttgaacctcaatctctcaatcgtcgtgctcccgcgtcgtctgcaagggcatcaatgaacgacccaacggtgtcggtgccgcacggcgccccaccttcgaccgcgacccc.

*psb*A-*trn*H sequence:

ataacttccctctagacctagctgctatcgaagctccaacaaatgggtaagacttgttYttagtgtgtaggagtttttgaaaatagaatagataaatataaggagcaagaaaccttttacttgttctctcaaaagagggtttcttgctcctttattttctttttaattaggagtcctttacagaataaataaagaagagaaaaaaacgattgaaattccatctttttccttttttacaatttataaaaaaaggaaaaagtgaattcgtaaatataaataaaagttaataaatttaaaaatttttgatagaatttgaatagtagaggggcggatgtagccaagtggatcaaggcagt

Y presents T or C.