

LIST OF GENES IN PISUM SATIVUM FOR RESISTANCE TO VIRUSES

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In 1934, W. H. Pierce (7) reported resistance in the cultivar Wisconsin Perfection to a newly characterized viral disease caused by bean yellow mosaic virus. However, it was not until 1956 that Yen & Fry in Australia (15) elucidated the inheritance of this resistance. Since then, a number of other genetic studies have been conducted in the USA and elsewhere, and presently we recognize 10 genes which are able to confer resistance to the most common viruses affecting Pisum sativum L. All these genes are monogenically inherited and 8 out of 10 are recessive, conferring a high level of resistance to the pertinent viruses. Some of these genes are strain- or pathotype-specific, whereas a few appear to be repetitive entities.

Gene symbol	Character, virus, and reference
cyv	Single recessive, temperature insensitive for resistance to <u>clover yellow vein virus</u> (formerly the severe strain of bean yellow mosaic virus); on chromosome 2, tightly linked to <u>mo</u> (9).
cyv-2	Single recessive, temperature insensitive for resistance to <u>clover yellow vein virus</u> , having the same function as cyv, but independently inherited; possibly a duplicate gene (9).
En	Single dominant for a high level of tolerance to <u>pea enation mosaic virus</u> (12); on chromosome 3 (3,6).
lr	Single recessive for resistance to <u>bean (pea) leafroll virus</u> (1).
<u>mo</u>	Single recessive for resistance to <u>bean yellow mosaic virus</u> (15), temperature sensitive, behaves as a single dominant at 18 C (14); confers resistance also to <u>watermelon mosaic virus 2</u> (13); on chromosome 2 (5); tightly linked to cyv and <u>sbm-2</u> (9,10).
<u>Pmv</u>	Single dominant for a high level of resistance to <u>plantago mottle virus</u> (8).

Gene symbol	Character, virus, and reference
<u>sbm</u>	Single recessive, specific for resistance to the standard strain of <u>pea seedborne mosaic virus</u> (4); on chromosome 6 (2).
<u>sbm-2</u>	Single recessive, specific for resistance to a lentil strain of <u>pea seedborne mosaic virus</u> ; temperature insensitive; on chromosome 2 and tightly linked to mo (10).
<u>sbm-3</u>	Single recessive, specific for resistance to a lentil strain of <u>pea seedborne mosaic virus</u> , having the same function as <u>sbm-2</u> . but independently inherited; possibly a duplicate gene (10).
<u>sbm-4</u>	Single recessive, specific for resistance to the P4 strain of <u>pea seedborne mosaic virus</u> , temperature insensitive (11).

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