CLAIMS

1. A method for producing recoverable unencapsidated dsRNA in a microbial cell, the method comprising co-expressing the dsRNA with a leviviridae coat protein gene encoding a capsid protein selected from MS2, Qβ, and an amino-terminal fragment of the capsid protein, wherein the dsRNA comprises a length exceeding the interior diameter of an MS2 coat protein.

2. The method of claim 1, wherein the gene encoding the dsRNA and the coat protein gene encoding the capsid protein are expressed from an inducible promoter.

3. The method of claim 2, wherein the coat protein gene encoding the capsid protein is expressed from a constitutive promoter and the gene encoding the dsRNA is expressed from an inducible promoter.

4. The method of claim 1, wherein the coat protein gene encoding the capsid protein is expressed prior to or concomitant with the gene encoding the dsRNA.

5. The method of claim 1, wherein the gene encoding the dsRNA and the coat protein gene encoding the capsid protein are present on one plasmid or extrachromosomal element within the microbial cell.

6. The method of claim 1, wherein the gene encoding the dsRNA and the coat protein gene encoding the capsid protein are present on separate plasmids or extrachromosomal elements within the microbial cell.

7. The method of claim 1, wherein one of the genes encoding the dsRNA and the capsid protein are present on a plasmid or extrachromosomal element and the other of the genes encoding the dsRNA and the capsid protein are present on the chromosome of the microbial cell.

8. The method of claim 1, wherein the gene encoding the dsRNA and the coat protein gene encoding the capsid protein are present on the chromosome of the microbial cell.

9. The method of claim 1, wherein the dsRNA is an RNAi precursor.

10. The method of claim 1, wherein after producing the dsRNA the microbial cell is subsequently lysed and the dsRNA purified from the lysate prior to processing for application.

11. The method of claim 1, wherein after producing the dsRNA the microbial cell is lysed

and processed for application without further purification of the dsRNA.

12. The method of claim 1, wherein after producing the dsRNA the microbial cells are processed for application without lysis or further purification of the dsRNA.

13. The method of claim 1, wherein the capsid protein comprises a truncated capsid protein.

14. The method of claim 13, wherein the capsid protein is MS2 protein, and the truncated capsid protein consists essentially of a fragment of the protein at the N-terminus of the MS2 capsid protein.

15. The method of claim 14, wherein the truncated MS2 capsid protein comprises the first 41 amino acids of the capsid protein.

16. The method of claim 14, wherein the truncated MS2 capsid protein comprises the first 35 amino acids of the capsid protein.

17. The method of claim 14, wherein the truncated MS2 capsid protein comprises the first 25 amino acids of the capsid protein.

18. The method of claim 14, wherein the truncated MS2 capsid protein comprises the first 21 amino acids of the capsid protein.

19. The method of claim 14, wherein the truncated MS2 capsid protein comprises the first 11 amino acids of the capsid protein.

20. The method of claim 1, wherein the microbial cell is a bacterium.

21. The method of claim 1, wherein the microbial cell is a gram-negative bacterium.

22. The method of claim 1, wherein the microbial cell is a strain of *Escherichia coli*.

23. The method of claim 1, wherein the microbial cell is a gram-positive bacterium.

24. The method of claim 1, wherein the microbial cell is a strain of *Corynebacterium glutamicum*.

25. The method of claim 1, wherein the microbial cell is a yeast.

26. The method of claim 1, wherein the microbial cell is a strain of *Saccharomyces cerevisiae*.