

6. Resuspend virus pellet in approx 40 mL of 30 mM sodium phosphate buffer, pH 7.5, clarify as in **Subheading 3.1., step 7**, and then split into two tubes before extracting with chloroform:butanol.
7. Chloroform:butanol extractions should be repeated until no contaminants are visible at the interface.
8. The purification procedure can be stopped at **step 10** of **Subheading 3.1.**, and the viral pellet resuspended in 20–30 mL 10 mM Tris-HCl, pH 7.5. This should result in a virus preparation at approx 1 mg/mL, from an initial 200–300 g of infected tissue. To determine the exact virus concentration, measure the OD at 260 nm (*see Subheading 3.1., step 12*). If a purer virus preparation is required, then the viral pellet should be resuspended in 20–30 mL 30 mM sodium phosphate buffer, pH 7.5, and centrifuged through a sucrose pad to remove any remaining contaminants.
9. Carefully layer 7 mL of virus onto 3 mL of 30% sucrose in 30 mM sodium phosphate buffer, pH 7.5, and sedimented by centrifugation for 2–3 h at 140,000g and 15°C in a swing-bucket rotor.
10. The virus suspension should clear after incubation with proteinase K.
11. TRV RNA should be visible as two bands of approx 6.8 kb and 1.8–3.9 kb, and PEBV as two bands of approx 7.0 and 3.4 kb on denaturing agarose gels. Additional smaller bands may also be visible: These are subgenomic RNA species.

References

1. Murphy, F. A., Fauquet, C. M., Elishop, D. H. L., Ghabrial, S. A., Jarvis, A. W., Martelli, G. P., Mayo, M. A., and Summers, M. D., eds. (1995) *Classification and Nomenclature of Viruses: Sixth Report of the International Committee on Taxonomy of Viruses*. Springer-Verlag, Wein and New York, pp. 438–440.
2. Harrison, B. D. and Robinson, D. J. (1986) Tobraviruses, in *The Plant Viruses*, vol. 2 (van Regenmortel, M. H. V., and Fraenkel-Conrat, H., eds.), Plenum, New York, pp. 339–369.
3. Bergh, S. T., Koziel, M. G., Huang, S. C., Thomas, R. A., Gilley, G. P., and Seigel, A. (1985) The nucleotide sequence of tobacco rattle virus RNA-2 (CAM strain). *Nucleic Acids Res.* **13**, 8507–8518.
4. Cornelissen, B. J. C., Linthorst, H. J. M., Brederode, F. T., and Bol, J. F. (1986) Analysis of the genome structure of tobacco rattle virus strain PSG. *Nucleic Acids Res.* **14**, 2157–2169.
5. Angenent, G. C., Linthorst, H. J. M., van Belkum, A. F., Cornelissen, B. J. C., and Bol, J. F. (1986) RNA-2 of tobacco rattle virus strain TCM encodes an unexpected gene. *Nucleic Acids Res.* **14**, 4673–4682.
6. Hamilton, W. D. O., Boccara, M., Robinson, D. J., and Baulcombe, D. C. (1987) The complete nucleotide sequence of tobacco rattle virus RNA-1. *J. Gen. Virol.* **68**, 2563–2575.
7. MacFarlane, S. A., Taylor, S. C., King, D. I., Hughes, G., and Davies, J. W. (1989) Pea early browning virus RNA-1 encodes four polypeptides including a putative zinc-finger protein. *Nucleic Acids Res.* **17**, 2245–2260.