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LOCALIZATION OF SUBGENOMIC RNA IN OKRA MOSAIC VIRUS. L. Givord, I.B.M.C., 15, rue Descartes, Strasbourg, France.

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Okra mosaic virus (OMV) a tymovirus, was separated in ClCs density gradient centrifugation, in 3 components : one top component, two middle components and one bottom component. As it is well known that turnip yellow mosaic virus (TYMV) contains a low molecular weight (LMC) RNA in addition to the infectious high molecular weight RNA and that LMC's of TYMV and eggplant mosaic virus (EMV) can induce the synthesis of coat protein in cell free extracts of wheat germ (szybiak, et al., Nucleic Acids Res. 5, 1821; Ricard et al., Virology 91, 305), it was interesting to study the translation of RNAs of OMV.

LMC RNA of top component of OMV induced the synthesis of a protein of MW 20000. By analogy with EMV and TYMV LMC's (Klein et al., Nucleic Acids Res. 3, 3043; Szibiak et al., Nucleic Acid Res. 5, 1821) this protein very likely corresponds to the viral coat protein, with which it comigrates.

The bottom component of OMV was fractionated in a CsCl gradient and its RNA was analyzed by polyacrylamide gel electrophoresis (PAGE). A low molecular weight RNA was always bound associated with genomic RNA. In a cell free wheat germ system it also induced the synthesis of a protein of molecular weight of 20000, in addition to other polypeptides. Genomic RNA purified by PAGE, did not induce the synthesis of such a protein.

LMC and genomic RNA seem to be encapsidated together in OMV, but the genomic RNA does not induce the synthesis of the viral coat protein. The latter behaviour is similar to that observed for TYMV and Tobacco mosaic virus.

For TYMV, LMC is present in the bottom component either encapsidated together with genomic RNA (Higgins et al. Virology 84, 153) or as aggregates of LMC only in the same component or in lighter components (Boo et Booo; Pleij et al. Febs 80, 19) but never in top component. In the case of EMV, on the opposite LMC is present only in top component. In Okra mosaic virus (OMV), LMC is present in both bottom and top components.