

Virus diseases of brassicas

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Viruses infecting brassicas

- *Turnip mosaic virus* (TuMV)
- *Cauliflower mosaic virus*
(CaMV)
- *Beet western yellows virus*
(BWYV)

1. The importance of *Turnip mosaic virus* (TuMV)

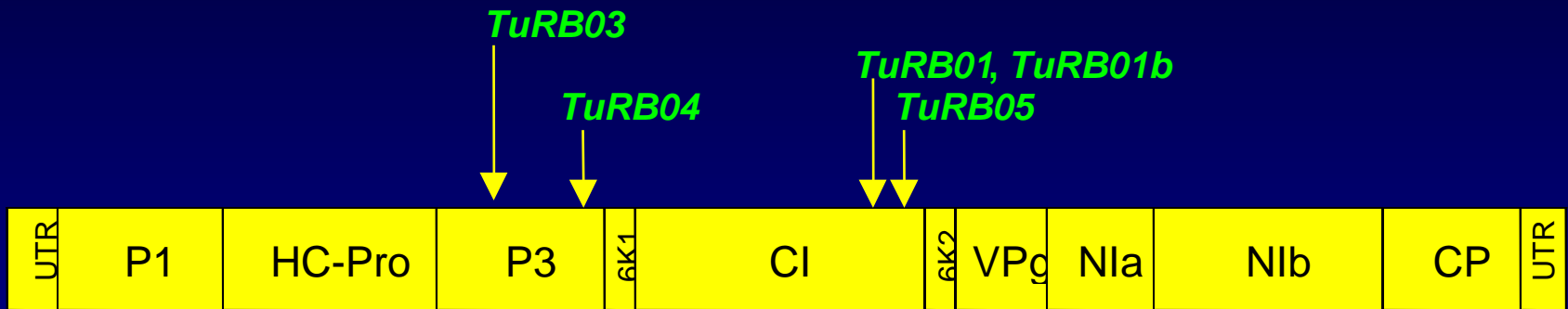
- Member of *Potyviridae*
- Worldwide distribution
- Widest host range of any potyvirus:
 - all brassicas
 - lettuce
 - radish
 - legumes
 - ornamentals
 - rhubarb
- Transmitted by ~ 89 aphid species

1. Resistance to TuMV in brassicas
2. Plant - virus co-evolution in wild brassicas
3. The susceptibility of cabbage to *Turnip mosaic virus* and *Beet western yellows virus*

1. Resistance to TuMV in brassicas

**Position of TuMV resistance genes
in the genome of *Brassica napus***

TuMV virulence determinants for brassica resistance genes



2. Plant -virus co-evolution in wild brassicas



Objectives

- To study host - virus co-adaptation in wild brassica and TuMV populations
- To elucidate the genomics of host-virus interactions in natural plant populations
- To identify plant genes involved in differential host responses to local and distant virus genotypes

Gene expression in *B. oleracea*

Interaction between local (adapted) and distant (unadapted) TuMV isolates and their wild *Brassica oleracea* hosts are being studied

3. The susceptibility of cabbage to *Turnip mosaic virus* and *Beet western yellows virus*

