

The enterobacterium *Erwinia chrysanthemi* is a causative agent of soft rot disease in a wide variety of plants. Among a set of pectin-depolymerising enzymes produced by *Erwinia*, the pectate lyases (Pel) are the major pectinases, which play a key role in plant tissue maceration. These enzymes catalyse the cleavage of pectate (homogalacturonan) by  $\beta$ -elimination, breaking the  $\alpha$ -glycosidic bond between O<sub>1</sub> and C<sub>4</sub> to leave an unsaturated C<sub>4</sub>-C<sub>5</sub> bond. This mechanism is metal ion dependent: Ca<sup>2+</sup> is the cofactor of most known Pels.

The pectate lyase PelI (MW 35 kDa) is the only known example of the *E. chrysanthemi* pectinases which consists of two functional modules named N-terminal and catalytic domains. These two domains are separated in external medium by a specific cleavage produced by the *E. chrysanthemi* proteases (Shevchik *et al.*, 1998). The catalytic domain of PelI, released by proteolysis (MW 25 kDa) seems to possess *in vitro* the same enzymatic properties as the full-length protein.

PelI has been expressed and purified to homogeneity. Crystals have been obtained in the space group  $P2_1$  with unit-cell parameters  $a=61.6$  Å,  $b=70.7$  Å,  $c=73.4$  Å,  $\beta=112.8^\circ$  (Castang *et al.*, 2003). Data have been collected at FIP BM 30 and SAD phases have been computed to 1.6 Å resolution from a gold derivative crystal at the wavelength of maximum absorption (LIII edge). The crystallographic refinement is underway.

We aim now to determine the structure of the single catalytic domain as well as the structures of the entire PelI in complex with various inhibitors.

## References

- Shevchik, V. E., Boccara, M., Vedel, R. & Hugouvieux-Cotte-Pattat, N. (1998). *Mol Microbiol.* **29**, 1459-1469.
- Castang, S., Shevchik, V.E., Hugouvieux-Cotte-Pattat, N., Legrand, P., Haser, R. & Gouet, P. (2003). *Acta Cryst.* **D60**,190-192.