

# Characterisation of *Lactococcus lactis* ABC transporter LmrA

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In order to study the general mechanism of MDR proteins, we use the bacterial ABC transporter LmrA from *Lactococcus lactis* as a model system. LmrA was found to confer resistance to more than 20 different antibiotics and is able to transport several cytotoxic drugs (1), and shares significant sequence similarity with the human multidrug resistance protein P-glycoprotein (ABC B1) (2,3). Due to the high level of homologous overexpression of LmrA, its specific ATPase activity can already be measured in membrane vesicles. The specificity is demonstrated by use of an ATPase deficient mutant. LmrA remains active after solubilisation and further purification with detergent, which allows us to measure substrate dependent ATPase activity in solution as well as after reconstitution in preformed liposomes.

The high obtainable yields (1 mg/l culture) and stability of LmrA makes it a perfect candidate for structural analysis and crystallisation.

## References

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