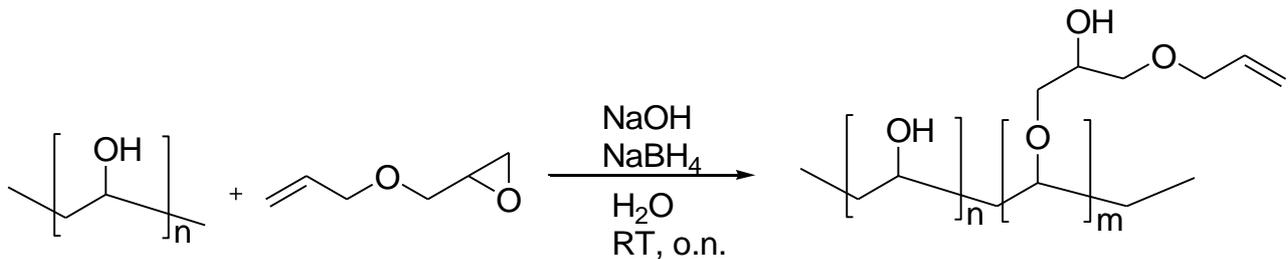


Lucidant allyl-poly(vinyl alcohol) (allyl PVA)



The analysis of high molecular weight (HMW) proteins from complex mixtures is still a challenge in proteomics. A sieving matrix formed by copolymerization of polyvinyl alcohol bearing olefinic moieties (allyl PVA) with acrylamide /bisacrylamide monomers provides improved separation of HMW proteins. By inducing gelation of polyacrylamide in the presence of variable amounts of allyl PVA polymer, it is possible to control and vary the average gel porosity. This gel is easy to produce and handle and offers the advantage of being highly mechanically resistant and macroporous.

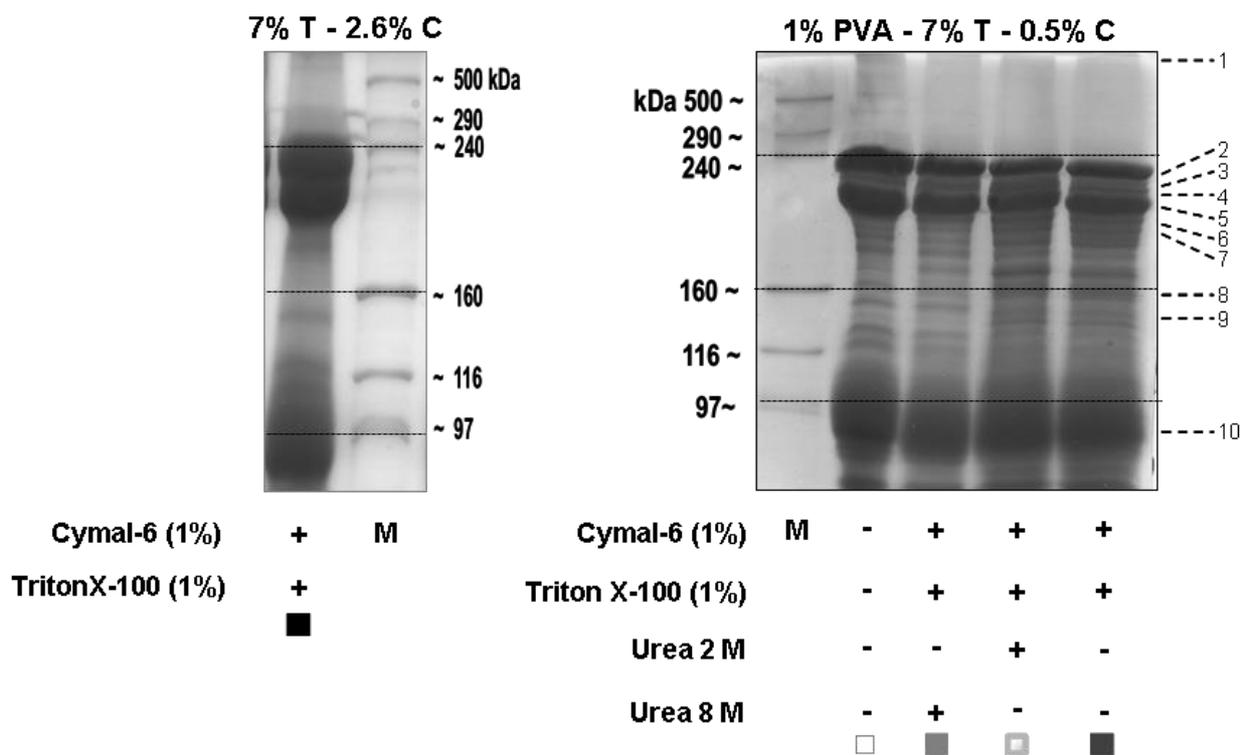
GEL PREPARATION

An allyl PVA stock solution (5% w/v) is prepared by dissolving the polymer powder in water at boiling temperature; the stock solution is diluted to a final concentration of 1% with a solution of Acrylamide/BIS, (7% T, 0.5% C in 375 mM Tris, pH 8.9, 0.1% SDS). TEMED (0.05% w/v) and APS (0.015% w/v) are added to initiate the polymerization. The solution polymerizes for 2h at room temperature before overlaying the stacking gel (Acrylamide, 3% T, 1.3% C in 0.125 M Tris-HCl buffer, pH 6.8).

Ally PVA gel performance

Analysis of red cell membrane proteins by 1DE in PA and allyl PVA gels. Left panel: 75 μ g of red cell membrane proteins were solubilized in standard sample buffer and separated in PAA gel (7%T-2.6% C), M: high molecular weight

commercial marker (HiMark™ unstained protein standard, Invitrogen). Right panel: 75 μ g of red cell membrane proteins were solubilized with Triton X-100 and Cymal-6 in addition to standard sample buffer and separated in allyl PVA gel (1% PVA-7% T-0.5% C). The gels were stained with Colloidal Coomassie to evaluate protein separation and analysed by image analysis software (Quantity One, BIO-RAD, Hercules, CA, USA).



Reference

Matte, A., Sola, L., Chiari, M., Tomelleri, C., Consonni, R., Turrini, F., De Franceschi, L., Performance of a novel sieving matrix of poly(vinyl alcohol)/acrylamide copolymer in electrophoretic separations of high molecular weight proteins from red cell membrane, *ELECTROPHORESIS*, 2014, 35,1081-1088.