

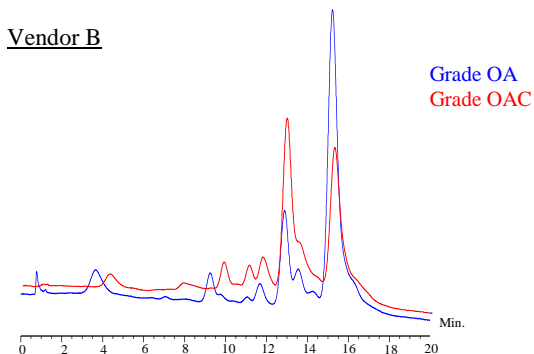
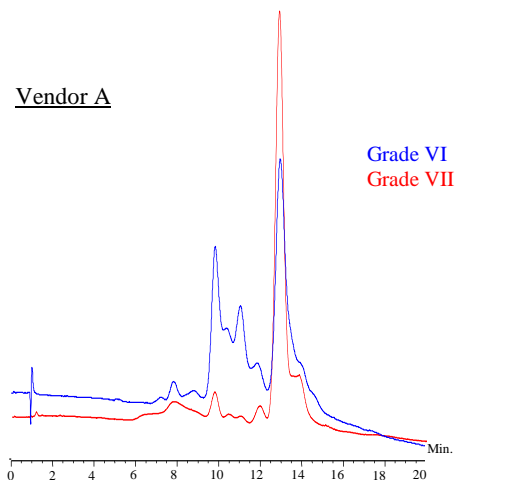
## APPLICATION NOTE

### Assessing Proteins Across Grades and Suppliers.

Selecting the optimal supplier and the optimal grade of a protein for study or further synthesis is a challenging task for the end user.

If the supplier or manufacturer's characterization provides inadequate information or detail compared with what the end user needs to know, the task falls to the QC/QA department to provide the missing data.

The two chromatograms below illustrate degrees of variation typically found across grades of protein from the same supplier. Each chromatogram shows two grades of ovine albumin from each vendor:



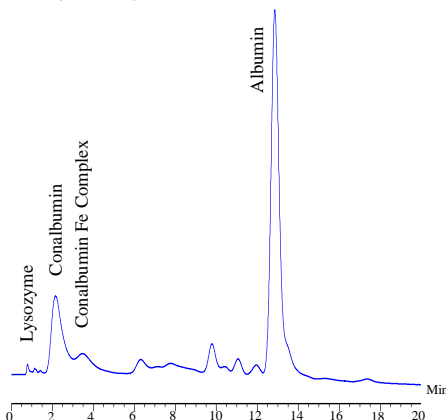
Note: To minimize the amount of test protein required and the waste generated, this analysis is performed with a narrow bore **STYROS™ HQ/NB** column. Table 1 shows the operating parameters.

**Table 1. Operating Parameters.**

|                         |  |
|-------------------------|--|
| <b>HPLC System.</b>     | HP 1100                                    |
| <b>Column</b>           | <b>STYROS™ HQ/NB</b> 150x2.1mm             |
| <b>Mobile Phase</b>     | A: 20 mM Tris, pH = 8.2<br>B: A + 1 M NaCl |
| <b>Flow rate</b>        | 0.5 ml/min (870 cm/hr)                     |
| <b>Gradient</b>         | 7 to 30% B in 18 Column Volume             |
| <b>Temperature</b>      | 30°C                                       |
| <b>Detection</b>        | 280 nm                                     |
| <b>Injection volume</b> | 2 µl                                       |
| <b>Samples</b>          | OVA (5mg/ml), Egg white (chicken)          |

A fresh dilution of egg white (1 to 9 in Buffer A) run on **STYROS™ HQ/NB** under similar conditions appears below:

**Egg White (Chicken)**



Ovine albumin, the major component, is well separated from the complex mix by **STYROS™ HQ/NB**.

The potential utility of such an approach for assessing available grades and suppliers should be self-evident.

The analysis addresses and clearly answers the specific questions of potential end users.

**STYROS™ HQ/NB** tolerates pressures up to 5,000 psi allowing high flow rates for both rapid sample analysis and efficient column re-equilibration.

The high capacity or **STYROS™ HQ/NB**'s quaternary amine surface and its fully pervious structure provide rapid and sensitive resolution of complex mixes.