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# ProductInformation

**IEF Markers**

Product Nos. **A2910, G7146, T1021, L5137, C3666, C6403, C6653, M9267, L1277, T1146**
Storage Temperature –20 °C

## Product Description

The use of individual protein markers enables the investigator to select a marker mixture best suited for the pH range being studied. Thus, the needless waste of proteins that would stack on the anode or cathode is eliminated. In pI determinations, individual protein markers should be used in conjunction with at least two or three other markers as part of a standard curve.

| Product No. | Product Name | ~pI |
|---|---|---|
| A2910 | Amyloglucosidase from *Aspergillus niger* | 3.6 |
| G7146 | Glucose Oxidase from *Aspergillus niger* | 4.2 |
| T1021 | Trypsin Inhibitor from Soybean | 4.6 |
| L5137 | β-Lactoglobulin A from Bovine Milk | 5.1 |
| C3666 | Carbonic Anhydrase II from Bovine Erythrocytes | 5.4 |
| C6403 | Carbonic Anhydrase II | 5.9 |
| C6653 | Carbonic Anhydrase I | 6.6 |
| M9267 | Myoglobin from Horse Heart | 6.8<br>7.2 |
| L1277 | Lectin from *Lens culinaris* | 8.2<br>8.6<br>8.8 |
| T1146 | Trypsinogen from Bovine Pancreas | 9.3 |

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

Store the lyophilized product desiccated at –20 °C. After reconstitution, the product is stable for 12 months at –20 °C.

## Preparation Instructions

Product Numbers L1277 and C3666 contain 1 mg of protein and should each be dissolved in 0.25 ml of deionized water. The remaining markers contain 2 mg of protein and should be dissolved in 0.5 ml of deionized water. Each vial contains glycine at a concentration of 200 mM and a reconstituted protein concentration of 4 mg/ml.

Solutions may be diluted for use as individual markers or combined for use as pI standards in the desired pH ranges. In either case, the recommended final protein concentration should be 0.4–0.6 mg/ml per marker except for Product No. L1277 which should have a final concentration of 0.8–2.0 mg/ml.

Note: Lentil Lectin (Product No. L1277) and β-Lactoglobulin A (Product No. L5137) may be hazy upon reconstitution. This in no way affects the electrofocusing, and results in an insignificant loss of protein.

## Procedure

Application of solutions to the gel may be accomplished in several ways. Small paper applicators are available which will apply approximately 15 µl. Protein samples, usually up to 10 µl in volume, may also be applied directly to the gel as drops, streaks, or rectangles. Basins may be made in the gel into which the sample is introduced; however, the depth of the basin should be limited to less than 30% of the gel thickness. Deeper troughs may skew the pH gradient.[1]

One mm thick gels (5% acrylamide and 3% cross-linking agent) should be run at 1 W/cm gel length. If paper applicators are used, they should be removed 30 minutes into a run. One additional hour should be sufficient time to complete the electrofocusing. If a constant power supply is not available, run at 25 V/cm for 30 minutes and 50 V/cm for 5 1/2 hours.

For further information on electrofocusing and Sigma isoelectric point markers, see the Technical Bulletins for the Isoelectric Focusing Marker Kits, Product Numbers IEFM2 (range 3.6–6.6) and IEFM1A (range 3.6–9.3).

**References**

1. Righetti, P.G. and Drysdale, J.W., Isoelectric Focusing Laboratory Techniques in Biochemistry and Molecular Biology (Work, T.S. and Work, E., gen. eds.) North Holland Publishing Co., Amsterdam, New York, Oxford (1976).

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