

Comparison of Protein Feature Resolution on Medium and Large Format Gels

Proteomic Technical Note

INTRODUCTION

Before high-tensile strength gels were available, many researchers used small or medium format gels to separate protein features because it was easier to handle smaller gels. With advancements in gel technology such as Duracryl™, a high-tensile strength acrylamide, researchers are able to handle large format gels easily. We have found that the resolution obtained with large format gels is superior to that of gels of a smaller format.

PROTOCOL

1. Two each of 11 and 18 cm pH 4-7 IPG strips were rehydrated with 100 µg of protein from crude E. coli lysate in Urea/Thiourea Rehydration/Solubilization buffer.
2. The strips were focused in the Investigator pHaser™ at 60,000 and 100,000 Volt-hours for the 11 and 18 cm strips respectively.
3. The 18 cm strips were run in the 2nd dimension using 10% Tricine Investigator gels. The 11 cm strips were run on 10% BioRad® Criterion™ gels.
4. The gels were stained with SYPRO® Ruby and imaged using the ProXpress™.
5. The Investigator HT PC Analyzer spot detection wizard was used to draw spot boundaries.

RESULTS

The larger gel resolved more spots than the medium gel:

- 185 spots were detected using the 11 cm gel. (Figure 2)
- 464 spots were detected using the 18 cm gel. (Figure 1)

MATERIALS

Part Number	Description
0070-4019	Urea/ Thiourea Rehydration/ Solubilization Buffer, 10 X 1 ml
0080-0321	E. coli Lysate, 500 µl
0080-0112	Tricine Chemistry/ 10% Duracryl (10T, 2.2 C), Pack of 5

Protein Resolution on Gels Page 2



Figure 1: Investigator Duracryl Large Format gel (22 cm X 22 cm) with 18 cm IPG strip

Protein Resolution on Gels Page 3



Figure 2: Criterion Medium Format gel (13 x 9 cm) with 11 cm IPG strip

Note: For best results, print with a color printer

©2002 Genomic Solutions Inc. rev 1.1 3/02

SYPRO® is a registered trademark of Molecular Probes, Inc.

ProXPRESS is a trademark of PerkinElmer Life Science, Inc.

Criterion is a trademark of Bio-Rad Laboratories

Investigator, pHaser, Duracryl, and Genomic Solutions are trademarks of Genomic Solutions Inc.

Worldwide Headquarters: 4355 Varsity Drive
 Ann Arbor, Michigan 48108 USA
 Ph: +1.734.975.4800 • Fx: +1.734.975.4808
 Toll Free: 1.877.GENOMIC (436.6642)

Europe: Genomic Solutions Ltd. • 8 Blackstone Road
 Huntingdon • Cambridgeshire
 PE29 6EF • United Kingdom
 Ph: +44 (0) 1480 426 700 • Fx: +44 (0) 1480 426 767

The Genomic Solutions Family

