

Application Note

SERVA Gel™ Native Gel

Vertical gels for *Blue* and *Clear Native PAGE*

1. Introduction

1.1. Native gel electrophoresis

The analysis of protein mixtures is routinely performed using SDS-PAGE. Because of the denaturing method, the analysis of multi protein complexes is not possible. Protein separation and analysis using native/non-denaturing conditions can be performed by using different methods, e.g. *Blue Native* or *Clear Native* electrophoresis.

1.2. *Blue Native* gel electrophoresis

Performing *Blue Native* gel electrophoresis, the detergent SDS is substituted by Coomassie Brilliant Blue G250/SERVA Blue G. This dye is also negatively charged. Dye-binding to proteins leads to negatively charged protein dye complexes. The native structure of the proteins is preserved because the dye does not act as a detergent. At physiological pH, the protein-dye-complexes migrate pI-independently towards the anode. The repulsion between the negatively charged protein dye complexes leads to a high selectivity.

1.3. *Clear Native* gel electrophoresis

The *Clear Native* gel electrophoresis works without using an anionic dye. Therefore, this method can be used for separation of proteins with pI<7 at physiological pH when dyes may interfere with further analytical methods.

2. General Information

The SERVA Gel™ Native Gels are ready-to-use native vertical gels for *Blue* and *Clear Native* electrophoresis.

These gels are also included in the SERVA Gel™ Native Gel Starter Kit. This kit contains also electrophoresis cathode and anode buffer as well as two different sample buffers to perform *Blue Native* (BN) and *Clear Native* (CN) gel electrophoresis.

2.1. Benefits for the user:

- simple, fast handling
- high resolution, sharp bands, best reproducibility
- made from top-quality chemicals
- gels prepared in unbreakable, leakage-free plastic cassettes
- long separation distance, cm-scale at front of cassette allows reproducible runs
- marking of anode and cathode for error-free assignment
- extra tool provided for easy and safe opening of cassette at the end of run
- compatible with many commercially available electrophoresis tanks (e.g. Hoefer Mighty Small™ SE 260, Hoefer miniVE™, etc.)

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SERVA GeTMN Native Gel

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The precast gels are manufactured according to proprietary methods developed by SERVA Electrophoresis GmbH and subject to strict quality control. Each production batch has assigned a unique lot number. In the event of queries, please quote this lot number along with the catalogue number.

2.2. Gel Cassette

Outer dimensions	: 10 cm x 10 cm
Number of sample wells	: 10 / 12
Volume per well	: 50 / 35 μ l

2.3. Gel

Material	: Acrylamide
	: N,N'-Methylenbisacrylamide
Thickness of gel layer	: 1 mm

2.4. Composition of gels

Acrylamide concentration (T):	3-12 % / 4-16 %
Cross linker concentration (C):	2.6 %

Please note:

Reagents for gel staining are not included. These products have to be ordered separately.

Storage Conditions:

Store the gels at 2 – 8 °C upon arrival.

Do **not** freeze the gels or leave them at room temperature for longer periods as this may impair their separation properties. If stored at the recommended temperature at least useable until: see expiry date on package.