# 琼脂糖预染预制胶电泳试剂盒
# Prestained Agarose Gel Electrophoresis Kit

## *产品特点及优势
## *Features and Advantages

**本产品是上海神鹿生物科技有限公司开发的用于核酸电泳的试剂盒，具有以下特点及优势：**

This product is for nucleic acid electrophoresis developed by Shanghai Mydeer Biotechnology Co., Ltd. and has the following features and advantages:

1. 省事：您不用再四处采购琼脂糖、核酸染料、电泳液和 loading buffer 等试剂，一个试剂盒全部解决。

1. Ready to use: Each kit contains agarose, nucleic acid stain, electrophoresis solution, loading buffer and other reagents, which will save the trouble to purchase all these separately.

2. 省时：为您省去了您亲自制胶的繁琐，为您省出一个小时左右的实验时间。

2. Time saving: It eliminates the hassle of making gel by yourselves, thus saving you as much as one hour's time to do experiments.

3. 省力：琼脂糖预染预制胶采用 **Biotium** 公司生产的 **Gelred** 染料，**安全可靠**！电泳过程无需电泳液染色或后染色，简捷方便，即开即用。建议使用电压 80~120V，或者根据您的实验调节到合适的电压。

3. Easy to handle: Gelred in the gel is a stain produced by Biotium, which is safe and reliable. During electrophoresis there is no need to stain or poststain the solution, thus making it easier to handle and ready to use.It is recommended to use a voltage of 80~120 volt, or adjust it to a suitable voltage according to your experiment.

4. 省心：用本产品电泳得到的 DNA 片段进行胶回收，不影响后续的 DNA 连接等反应。

4. Expense saving: The agarose gel can be reused after the DNA fragments obtained, which will not affect the subsequent DNA connection and other reactions.

5. 兼容：琼脂糖预染预制胶为 TAE 体系，与实验室常规自制的 TAE 琼脂糖胶完全一致，使用完美衔接！

5. Compatible: The agarose gel uses the buffer of TAE type, which is the same as that used in the laboratory!

## *货号及成分
## * Article Number and Kit Components

1. 琼脂糖预染预制胶每盒 10 块，根据孔数和孔体积，您有四个常用浓度可选，对应货号见下表。

1. Each package contains 10 blocks of gels. According to the number and volume of the wells, four gel concentrations are for selection as shown in the following table.

| 孔数 Number of wells | 孔宽 Width of per well | 孔长 Length of per well | 孔体 Volume of per well | 胶面尺寸 Gel Size | 1.0%货号 Cat. No. for 1.0% | 1.2%货号 Cat. No. for 1.2% | 1.5%货号 Cat. No. for 1.5% | 2.0%货号 Cat. No. for 2.0% |
|---|---|---|---|---|---|---|---|---|
| 6 | 1.5mm | 7.0mm | 52.5μL | 56×60mm | 10106 | 10126 | 10156 | 10206 |
| 8 | 1.0mm | 4.8mm | 24.0μL | 56×60mm | 10108 | 10128 | 10158 | 10208 |
| 11 | 1.0mm | 3.0mm | 15.0μL | 56×60mm | 101011 | 101211 | 101511 | 102011 |
| 13 | 1.5mm | 7.0mm | 52.5μL | 116×60mm | 101013 | 101213 | 101513 | 102013 |
| 18 | 1.0mm | 4.8mm | 24.0μL | 116×60mm | 101018 | 101218 | 101518 | 102018 |
| 25 | 1.0mm | 3.0mm | 15.0μL | 116×60mm | 101025 | 101225 | 101525 | 102025 |
| 50 | 1.0mm | 3.0mm | 15.0μL | 116×60mm | 101050 | 101250 | 101550 | 102050 |

您可以通过您的供货商或者 400-055-1576 电话沟通定制您需要的其他浓度（0.75~2.5%）。当您需要大量的非常用胶，例如孔数、孔宽和孔长等不同于常用尺寸，我们可以在现有胶面尺寸的基础上为您设计制作能解决您需求的特殊预制胶。

For other concentrations(0.75~2.5%), please consult with the suppliers or call 400-055-1576. If you need the gels that are uncommon in size, we can design personally for your special needs based on the common size.

2. 专适 6×DNA Loading Buffer 一支，货号：10052，规格：400μl。

2. 400μl ×1 Optimized 6×DNA Loading Buffer, Cat. No. 10052

专适 6×DNA Loading Buffer 是本公司为琼脂糖预染预制胶特殊设计的 6×DNA Loading Buffer，配合预制胶的其他试剂，可以使电泳图谱更加锋利和清晰。

Optimized 6×DNA loading buffer is designed specifically for this gel. Combined with other reagents, it can make the map more clear and sharp.

专适 6×DNA Loading Buffer 用于琼脂糖凝胶电泳前 DNA 样本的处理，使用时将 1 倍体积的专适 6×DNA Loading Buffer 与 5 倍体积的 DNA 样品混合均匀后上样。缓冲液组分经过优化，其中的染料溶液包括指示剂溴酚蓝和二甲苯青 FF，电泳时可肉眼监控 DNA 的迁移。甘油确保样本在点样孔底部聚集；EDTA 结合二价金属离子并抑制金属离子依赖性核酸酶。在 1.0%的琼脂糖凝胶中，溴酚蓝的迁移率与 300bp 的双链线性 DNA 片段大致相同，二甲苯青 FF 的迁移率与 4000bp 的双链线性 DNA 片段大致相同。

Optimized 6×DNA loading buffer is used to process DNA samples before electrophoresis. Mix Optimized 6×DNA loading buffer with the DNA samples at a volume ratio of 1:5 completely before loading. With the buffer compositions optimized, the incorporated tracking dyes bomophenol blue and xylene cyanol FF help to visualize the DNA migration during electrophoresis. Glycerin ensures that samples gather at the bottom of the loaded wells; EDTA binds divalent metal ions and inhibits metal-ion-dependent nucleases. In agarose gel of 1.0%, the mobility rate of bromophenol blue is approximately the same as that of double-stranded DNA fragment of 300bp, and that of xylene blue FF is approximately the same as that of double-stranded DNA fragment of 4000bp.

3. TAE 速溶颗粒二袋，货号：1002，规格：包。

3. Two pouches of TAE Instant Granules, Cat.No. 1002

TAE 速溶颗粒为白色颗粒，每袋 TAE 速溶颗粒可配制 1L 1×TAE 缓冲液，操作简便，使用方便。TAE 是广泛使用的核酸电泳缓冲液，主要成分是 Tris-乙酸盐和 EDTA。DNA 分子在高于等电点的缓冲液中带负电，向正极移动。TAE 缓冲液常用于基因组 DNA、大分子超螺旋 DNA、扩增 DNA 片段电泳分离，电泳大于 13kb 的片段时用 TAE 缓冲液将取得更好的分离效果。

TAE Instant Granule is white. Each pouch can be diluted to 1 L of 1× TAE buffer，which is easy to operate and use. TAE buffer is widely used in nucleic acid electrophoresis. It consists of TRIS acetate and EDTA. DNA molecules are negatively charged in the buffer above the isoelectric point and migrate toward the positive pole. TAE buffer is often used in electrophoresis to separate genomic DNA, macromolecule superhelix DNA and amplified DNA fragments. DNA fragments larger than 13kb can be separated effectively in TAE buffer.

4. 专适 Marker 一支，货号：OM2000 或 OM5000，规格：80μl。

4. 80μl×1 Optimized Marker, Cat.No. OM2000/OM5000

专适 Marker 是本公司为琼脂糖预染预制胶特殊设计的 Marker，配合预制胶的其他试剂，可以使电泳图谱更加锋利和清晰。每套产品搭配一款专适 Marker，用户可以选择 OM2000 或 OM5000 其中的一种。该两种专适 Marker 都为即用型产品，已含有 1×Loading Buffer。如果是 6 或者 13 孔，建议上样量为 3~5μl；如果是 8 或者 18 孔，建议上样量为 2~3μl；如果是 11、25 或者 50 孔，建议上样量为 1~2μl。也可根据实验需要，取您合适的量进行电泳。

Optimized Marker is designed specifically for this gel. Combined with other reagents, it can make the map more clear and sharp. Each set of the product is matched with one specific Marker. Two Markers (OM2000/OM5000) can be selected, both of which are ready to use and consist of 1×loading Buffer. If gel is 6 or 13 wells, the recommended Marker loading amount is 3~5 μl; If gel is 8 or 18 wells, the recommended Marker loading amount is 2~3μl; If gel is 11、25 or 50 wells, the recommended Marker loading amount is 1~2μl。Or load the other volume for the experiment for electrophoresis.

OM2000 DNA Marker 由 100bp、250bp、500bp、750bp、1000bp、2000bp 共 6 条线状双链 DNA 片段组成。750bp 为加亮带，5μl 产品中，每条带含量约 50ng，加亮带约 120ng。

OM2000 DNA Marker is composed of 6 linear double-stranded DNA fragments of 100bp, 250bp, 500bp, 750bp, 1000bp and 2000bp.750bp is the brightening band, 5μl In the product, the content of each band is about 50ng, and the brightening band is about 120ng.

OM5000 DNA Marker 由 100bp, 250bp, 500bp, 750bp, 1000bp, 2000bp, 3000bp, 5000bp 共 8 条线状双链 DNA 片段组成。750bp 为加亮带，5μl 产品中，每条带含量约 50ng，加亮带约 120ng。

OM5000 DNA Marker is composed of 8 linear double-stranded DNA fragments of 100bp, 250bp, 500bp, 750bp, 1000bp and 2000bp. 750bp is the brightening band, 5μl In the product, the content of each band is about 50ng, and the brightening band is about 120ng.

## *运输及保存
## *Shipping and Storage

琼脂糖预染预制胶电泳试剂盒的小黑盒 2~8℃保存和运输，有效期 12 个月。

Ship and store the kit at 2~8℃. It will remain stable for one year.

专适 6×DNA Loading Buffer 2~8℃运输，长期需要-20℃保存，有效期 12 个月。

Ship Optimized 6×DNA loading buffer at 2~8℃, for short-time storage and at -20℃ for long-time storage. It will remain stable for one year.

TAE 速溶颗粒 2~8℃或常温运输，常温保存，有效期 24 个月。

Ship TAE Instant Granule at 2~8℃ or room temperature and store at room temperature. It will remain stable for two years.

专适 Marker 2~8℃运输，长期需要-20℃保存，有效期 12 个月。

Ship Optimized Marker at 2~8℃ and store it at -20°C for long-time storage. It will remain stable for one year.

## *自备试剂
## *Reagents Required But Not Provided

核酸样品、去离子水

Nucleic acid sample and Deionized water

## *使用方法
## *Procedure

1. 量取约 600ml 的蒸馏水加入烧杯，并放置一个磁性搅拌子于烧杯中。将烧杯置于磁力搅拌器上，慢慢加入 1 袋 TAE 速溶颗粒的全部内容物，搅拌溶液直至完全溶解。把烧杯中的溶液倒入 1000ml 的容量瓶中，再加入蒸馏水，定容至 1000ml，即为 1×TAE 溶液。

1. Add one pouch of TAE Instant Granule into the cleaned beaker, dissolved completely with 600 ml distilled water under a magnetic stirrer. Pour the solution into 1L flask. Add distilled water to the solution until the total volume is 1L. The final solution is 1×TAE buffer.

2. 取出一块独立包装的琼脂糖预染预制胶，撕掉表面的塑料膜，反转包装，用两手的食指和中指托住塑料壳边缘，开口向下没入电泳液中，然后用两个大拇指轻轻按压塑料壳背面中心部分，琼脂糖预染预制胶就会落入电泳液中，此时的预制胶带孔面向上，移动胶块，使孔侧端靠近电泳槽负极。如样品孔内有气泡，应设法除去。

2. Take out one kit, take off the plastic package, reverse it, support the two edges with index and middle fingers of both hands, immerse it in the buffer with the opening downward and gently press the central part of the kit with two thumbs. Thus the gel will fall into the buffer with the side of the well upward. Move the gel to make the well end close to negative electrode of the electrophoresis cell. If bubbles are produced in the sample wells, try to remove them.

3. 按 5:1 的比例取适量核酸样品和专适 6×DNA Loading Buffer 混匀，用移液器将专适 Marker 和样品混合液依次缓慢加入被浸没的凝胶加样孔内。

3. Mix Optimized 6×DNA loading buffer and DNA sample at a volume ratio of 1:5. Carefully load prepared Marker and the mixed sample into the wells with pipette successively.

4. 接通电源，红色为正极，黑色为负极，切记 DNA 样品由负极往正极泳动(靠近加样孔的一端为负)。

4. Connect the electrophoresis cell to the power source according to the conventions: Red-Anode and Black-Cathode. Turn on the power source. Note that the DNA sample moves from the negative to the positive (the end near the wells that DNA samples are loaded in is negative).

5. 根据指示剂泳动的位置，判断是否终止电泳。

5. Determine whether to stop electrophoresis according to the migration of the tracking dyes.

6. 电泳完毕，关闭电源，用凝胶成像仪观察电泳条带及其位置，与 Marker 比较扩增产物的大小。

6. Switch off the power source when the electrophoresis finishes. Visualize the band by using a gel documentation system and compare the size of the amplified product with that of Marker.