

## AuroraStain Nucleic Acid dye plus (10000x)

### Product information:

AuroraStain Nucleic Acid dye plus is a recently developed cyanine nucleic acid dye of polymerizome. AuroraStain Nucleic Acid dye plus modifies cyanine-based phenyl rings into chain structured oily macromolecules that are unique for their ability to penetrate cell membranes into living cells. It is nonvolatile and safe for use, as it is not mutagenic even at gel staining concentrations and has been deemed nontoxic. The improved design of AuroraStain Nucleic Acid Dye Plus eliminates the bending and migration issues commonly encountered with traditional cyanine-based nucleic acid dyes, making it an ideal choice for various nucleic acid electrophoresis applications. The dye is compatible with both standard UV Gel imaging systems and blue light excitation, making it suitable for safe sizing in either system. With its highly sensitive and safe properties, AuroraStain Nucleic Acid Dye Plus is a brand-new, cutting-edge solution for nucleic acid staining.

Components	Cat.No.: A002-1	Cat. No.: AN002-2	storage
AuroraStain Nucleic Acid dye plus (10000x)	500µl	5x 500µl	2°C -8°C



This product is intended for use by trained laboratory personnel only. It is important to follow proper laboratory safety protocols when handling this product. This includes wearing appropriate protective eyewear, clothing, and gloves to reduce the risk of exposure. In the event of contact with skin or eyes, rinse immediately with copious amounts of water and seek medical attention if necessary.

### Product features:

1. Safe: AuroraStain Nucleic Acid Dye Plus is non-penetrating due to its unique oily macromolecule characteristics and has low mutagenicity as indicated by EMSS test results.
2. High Sensitivity: This dye is suitable for staining fragments of various sizes with minimal impact on nucleic acid migration.
3. Excellent Stability: It is robust against microwave and heating methods, and has high resistance to light and changes in acidity or alkalinity.
4. High Signal-to-Noise Ratio: It provides strong sample fluorescence with low background signal.
5. Easy to Use: The dye remains stable during pre-gelation and electrophoresis and can be easily visualized with a blue visible light gel transilluminator.
6. Versatile: You can choose between pre-electrophoresis staining (gel staining) or post-electrophoresis staining (bubble staining), and it is suitable for use with agarose gel or polyacrylamide gel electrophoresis, as well as dsDNA, ssDNA, or RNA staining.
7. Compatible: AuroraStain Nucleic Acid Dye Plus can be used with UV Gel imaging systems using 254 nm excitation or gel viewing devices with blue visible excitation.

### Use procedure:

#### Gel staining (prestaining method):

The steps described are for preparing and running an agarose gel with the addition of the concentrated AuroraStain Nucleic Acid dye plus.

1. The agarose gel is prepared by adding the concentrated 10000x AuroraStain Nucleic Acid dye plus to the gel solution to a final concentration of 1x. The amount of dye added is adjusted based on the desired final volume of the gel.
2. When loading the DNA marker during electrophoresis, it is important to be cautious as the AuroraStain Nucleic Acid dye plus is very sensitive. Only 1-2 µl of the DNA marker should be loaded, as opposed to the 5 µl that would be used in regular electrophoresis.
3. After preparing the gel and loading the DNA marker, electrophoresis is performed using routine methods, and observations are made.

#### Bleb staining (poststaining):

The steps described are for a post-staining method using the AuroraStain Nucleic Acid dye plus.

1. Electrophoresis is performed following routine methods.
2. A 3x staining solution is prepared by diluting the 10000x AuroraStain Nucleic Acid dye plus concentrate approximately 3300-fold into 0.1M NaCl with dh2o.
3. The gel is carefully placed into a suitable container and a sufficient volume of the 3x staining solution is added to submerge the gel. The staining is performed for approximately 30 minutes at room temperature with shaking. The optimal staining time may vary slightly depending on the gel thickness and agarose concentration, with staining times typically ranging from 30 minutes to 1 hour for 3.5-10% acrylamide gels. After staining, observations are made.

### Shipping and storage:

Upon receiving the product, store the product at suggested conditions. Shipping and temporary storage for up to 30 days at room temperature has no detrimental effects on the quality of the product.

### Note:

1. The dye can be added directly to hot agarose solutions without waiting for it to cool, and mixing can be ensured by shaking or inverting the solution. An option to store the dye in agarose powder and electrophoresis buffer is also described, which can be heated to prepare an agarose gel.
2. If a diffuse or suboptimal separation of bands is observed, post-staining with AuroraStain Nucleic Acid dye plus is recommended to confirm that the issue is related to the dye. If the problem persists, other solutions such as reducing the agarose concentration or improving the loading technique can be tried.
3. It is recommended to use polypropylene containers when working with AuroraStain Nucleic Acid dye plus to avoid the dye's avidity for glassware and non-polypropylene materials.

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4. This method is not suitable for precast polyacrylamide gels and the bubble staining method should be used instead.

**Technical support:**

If you have any questions or concerns, please don't hesitate to reach out to our support team at [support@angeneovo.no](mailto:support@angeneovo.no). Our knowledgeable and friendly team is available to assist you and ensure a positive experience with our product.

**Disclaimer And Warranty:**

This product is compliant with its relevant specifications and intended for its stated purpose. However, ANGENOVO AS does not provide any other warranty or guarantee regarding the product's description or quality. Any such warranties or guarantees are explicitly excluded to the fullest extent allowed by law. ANGENOVO AS will not be held liable for any special, incidental, indirect, multiple or consequential damages related to or arising from the use of this product. The liability of ANGENOVO AS will not be limited or excluded for death or personal injury caused by its negligence, fraud, or fraudulent misrepresentation or any matter where it would be illegal to exclude or restrict such liability.

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