DNA Hybridization Buffer

Diluent for *in situ* hybridization probes

Control Number: 901-4036-090717

Catalog Number: BRI 4036 G10

Description: 10 ml, Ready-to-use

Intended Use:

For In Vitro Diagnostic Use

DNA Hybridization Buffer is intended for use in diluting biotinylated probes targeting DNA sequences, as part of an *in situ* hybridization (ISH) procedure. The clinical interpretation of any staining or its absence should be complemented by morphological studies and proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

Summary & Explanation:

DNA Hybridization Buffer is a modified Denhardt's solution in citrate buffer containing formamide and a mixture of blocking reagents. When used as a diluent for DNA targeting probes in an ISH procedure, DNA Hybridization Buffer facilitates spreading of probes and reduces drying of DNA during hybridization reactions. Effective hybridization may facilitate enhanced staining and reduce artifacts.

Known Applications:

in situ hybridization (formalin-fixed paraffin-embedded tissues (FFPE))

Supplied As:

Citrate buffer, pH 7.7-7.8, with formamide, dextran sulfate, blocking reagents and sodium azide.

Materials and Reagents Needed But Not Provided:

Microscope slides, positively charged
Desert Chamber* (Drying oven)
Positive and negative tissue controls
Xylene (Could be replaced with a xylene substitute*)
Ethanol or reagent alcohol
Decloaking Chamber* (Pressure cooker)
Deionized or distilled water
Wash buffer*(TBS/PBS) Pretreatment reagents*
Enzyme digestion*
Peroxidase block*
Protein block*
Biotinylated probes
Negative control reagents*
SSC Wash Buffer*
Detection kits*
Detection components*
Chromogens*
Hematoxylin*
Bluing reagent*
Mounting media*

*Biocare Medical Products: Refer to a Biocare Medical catalog for further information regarding catalog numbers and ordering information. Certain reagents listed above are based on specific application and detection system used.

Storage and Stability:

Store at 2ºC to 8ºC. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user.

Instructions for Use:

DNA Hybridization Buffer is provided in a ready-to-use format. Biotinylated probes may be diluted to the desired working concentration in this buffer. Dilute biotinylated probe in hybridization buffer and pipette up and down several times to mix well. Empirical testing will determine the optimal dilution and best performance.

Limitations:

The protocols for a specific application can vary. These include, but are not limited to fixation, enzymatic digestion, heat-retrieval method, incubation times, and tissue section thickness. Appropriate probe concentration and protocol parameters may depend upon multiple factors and must be empirically determined by the user. Ultimately, it is the responsibility of the investigator to determine optimal conditions. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist. The clinical interpretation of any positive or negative staining should be complemented by morphological studies using proper positive and negative internal and external controls as well as other diagnostic tests.

Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA, USA (www.clsi.org). 2011

Precautions:

1. This product is intended for *in vitro* diagnostic (IVD) use.
2. This hybridization buffer contains formamide in concentrations and volumes that are harmful to health. Avoid any direct contact with reagents. Take appropriate protective measures (use disposable gloves, protective glasses, and lab garments).
3. This product contains less than 0.1% sodium azide. Exposure to sodium azide may be harmful. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (3)
4. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Avoid contacting the skin and mucous membranes with reagents and specimens, and follow standard laboratory precautions to prevent exposure to eyes and skin. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (4)
5. Microbial contamination of reagents may result in an increase in nonspecific staining.
6. The SDS is available upon request and is located at http://biocare.net/.

Troubleshooting:

Follow the reagent specific protocol recommendations according to the data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542 -2002.

References:

1. Wilkinson DG. In Situ Hybridization: A Practical Approach (Practical Approach Series). 2nd Ed. Oxford: Oxford University Press, 1999.
2. Nuovo GJ. In Situ Molecular Pathology and Co-Expression Analyses. 1st Ed. San Diego: Academic Press, 2013.
3. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
4. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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