

## DATA SHEET

### Nucleic Acid Retrieval Solution

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#### REAGENTS SUPPLIED

(Store at 2-8°C)

HK873-5K: One bottle (250 ml), ready-to-use, Nucleic Acid Retrieval Solution 1 (NAR-1)

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#### Intended Use

The [Nucleic Acid Retrieval Solution 1](#) (NAR-1) is designed to carry out dewaxing of paraffin-embedded tissue sections and increase target nucleic acid accessibility for *in situ* hybridization. NAR-1 performs dewaxing and unmasking of target nucleic acids in one step using microwave heating.

#### Description

Nucleic acid Retrieval solution I is compatible with a series of BioGenex ISH probes (DNA probes, RNA probes & miRNA probes) for rapid [in situ hybridization](#) (ISH) on formalin fixed paraffin embedded (FFPE) tissue sections & cell smears. Use of Nucleic acid Retrieval solution I (NAR-1) aids in the recovery of optimal quality nucleic acids for *in situ* hybridization assays thereby eliminating the need for multiple retrieval buffers including EDTA, citrate buffer or high pH Tris buffers commonly used for Antigen retrieval in IHC assays.

The quality of the staining result is largely dependent on **strict adherence** to the Nucleic acid retrieval protocol. A user following the standard protocol outlined below will see crisp & clear staining with little or no background.

#### Limitations

The Nucleic acid Retrieval protocol is recommended for use with tissues fixed *with formalin & cell smear only*. Other fixatives or fixation procedures may not produce comparable results. Interpretation of the staining results is solely the responsibility of the user.

#### Standard Protocol

Rinse slides in deionized water. Place slides in a plastic staining holder\*\* with any empty slots filled with blank slides. Place the holder in a white slide bath containing 250 ml of ready to use Nucleic acid Retrieval Solution. Place the lid loosely on the bath and center it inside a microwave oven on a paper towel to adsorb any liquid run over.

Turn the oven on high power at 85°C for 2 min followed by 98°C for 20 minutes (user may carry this step at 85°C for 2 min followed by two cycles of 98°C for 10 minutes). (Note: It usually takes 3-7 minutes before a boil is reached. However, the amount of time required may vary significantly depending on a number of factors, such as the starting temperature of the retrieval solution, the wattage of the microwave oven, the age of the oven and the inside temperature of the oven. It is very important that a rapid boil is reached for every run before proceeding to the next step.)

This power setting should be noted and used for this step in all subsequent runs for the same probe. Each probe should be tested for the optimal time for this step.)

Remove the slide bath from the microwave oven. Allow [slides](#) to cool for 20-30 minutes at room temperature. Rinse with several changes of deionized water. Place slides in 1X PBS and continue with the *in situ* hybridization procedure.

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#### Precaution

1. This product is not classified as hazardous. Proclin 300 in this solution is used as preservative at concentration less than 0.25% and does not meet the OSHA criteria for a hazardous substance. Prolonged exposure to Proclin 300 can cause skin and eye irritation and irritation to mucous membranes and upper respiratory tract.
2. Wear appropriate Personal protective equipment (PPE like Gloves, Mask etc) when handling these reagents.
3. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water.
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. If reagents are stored under a condition other than those specified in the package insert, they must be verified by the user. Store all reagents at 2-8°C. Do not use after expiration dates as indicated on the reagent labels
5. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
6. For more information, Safety Data Sheet (SDS) is available upon request and is located at <http://biogenex.com>
7. For Disposal of the solution consult OSHA, federal, state or local regulations.

#### References

1. Shi, S.R., et al. Antigen Retrieval in formalin-fixed, paraffin-embedded tissues: an enhancement method for immunohistochemical staining based on microwave oven heating of tissue sections. *J Histochem Cytochem* 39:741, 1991.
2. Gown, A.M., et al. Microwave-based antigenic unmasking: a revolutionary new technique for routine immunohistochemistry. *Appl Immunohistochem* 1:256-266, 1993.
3. Shi, S.R., et al. Antigen Retrieval technique: a novel approach to immunohistochemistry on routinely processed tissue sections. *Cell Vision* 2:6-22, 1995.
4. Shi, S.R., et al. Antigen Retrieval immunohistochemistry under the influence of pH using monoclonal antibodies. *J Histochem Cytochem* 43:193-201, 1995.

**General Purpose Reagent, suitable for diagnostic Histopathology, Laboratory and Research Use.**