

## Neutral Red Staining Solution

### Introduction

Neutral red is a cationic dye, which stains nuclei in red. Neutral red staining solution is often used for nuclei counterstaining in immunofluorescence or immunohistochemical staining. This solution is acidic, and it is more suitable to stain fixed tissue or cell samples than living cells. Neutral red stains the DNA of nuclei deep red, while it stains the DNA and RNA of cytoplasm pale red.

Neutral red also serves as a pH indicator. It is red in an acidic environment. When pH gradually increased, the color of neutral red changes from red to yellow.

### Components and Storage

Components	K1185-100 mL
Neutral Red Staining Solution	100 mL
Store the solution at 4°C or -20°C. Stable for 1 year.	

### Protocol

#### 1. Sample pretreatment

##### 1) Paraffin section

- ① Soak the sections in the xylene 2 times (5-10 min/per time) to remove the wax
- ② Absolute ethanol treatment for 5 min
- ③ 90% ethanol treatment for 2 min
- ④ 80% ethanol treatment for 2 min
- ⑤ 70% ethanol treatment for 2 min
- ⑥ Rinse with distilled water for 2 min

##### 2) Frozen section

- ① Rinse with distilled water for 2 min

##### 3) Culture cell

- ① 4% paraformaldehyde fixation for at least 10 min

- ② Rinse with distilled water 2 times (2 min/per time)

## 2. Sample staining

- 1) Neutral Red Staining Solution treatment for 2-5 min

**\*Note:** The time of Neutral Red Staining can be adjusted according to the experimental needs.

- 2) Rinse with distilled water and examine directly under the microscope

## 3. Staining result

Nuclei	Deep red
Cytoplasm	Pale red

## Note

1. For the first time using this solution, it is recommended to take 1-2 samples for a preliminary test.
2. The time of neutral red staining can be adjusted according to the experimental needs.
3. This solution may occur precipitate when long-time storage. Directly use the supernatant or use the solution after removing precipitate by filtration.
4. For your safety and health, please wear lab coats and gloves during the experiment.
5. For research use only. Not to be used in clinical diagnostic or clinical trials.

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