



## POTASSIUM HYDROXIDE SOLUTIONS (KOH)

- For in vitro use only -

RP85-25 KOH (10%) [25-mL]

RP86-25 KOH (10%) with 20% Glycerol [25-mL]

RP86-50 KOH (10%) with 20% Glycerol [50-mL]

RP87-50 KOH (10%) with 40% Glycerol [50-mL]

RP88-25 KOH (20%) [25-mL]

Our Potassium Hydroxide (KOH) Solutions are used in the preparation of temporary wet mounts for the direct examination of specimens for fungi.

Specimens that are mucoid or contain keratin, such as skin, nails, or hair, contain elements that may obscure or mask fungal elements. KOH has a clearing effect on most clinical samples by dissolving proteinaceous cellular material and background keratin allowing for increased visibility of fungal elements. The specimen may be any type of clinical material, although fluids such as CSF generally do not need to be treated. Also, the KOH Solutions can be used in conjunction with some fungal stains, such as Lactophenol Blue Stain (Cat# SL18) or Calcofluor White Stain (Cat# SC15), to help distinguish fungal elements.

### Formulation per 100mL

	RP85	RP86	RP87	RP88
KOH (g)	10	10	10	20
Glycerol (mL)	---	20	40	---
Water (mL)	100	80	60	100

### Recommended Procedure

1. Place the material to be examined onto a clean glass slide.
2. Add a drop of KOH solution to the material and mix. (If desired, a staining agent may be added at this point)
3. Place a cover slip over the preparation, and remove any excess fluid by gently pressing the slide, coverslip down, onto paper towels or blotting paper.
4. Allow the preparation to stand at room temperature until the material has cleared. The wait time varies

between five and thirty minutes depending on the sample.

5. If desired, the preparation can be gently heated to accelerate clarification. (Heat only if necessary as overheating may distort or destroy fungal elements)
6. Examine preparation using a bright-field or phase-contrast microscope. Fungal structures such as hyphae, yeast cells, spherules, and granules may be distinguished. For bright-field, examine slides with reduced light (narrow the iris diaphragm). If slides are negative, examine slides on several consecutive days.

### Interpretation of Results

Please refer to an appropriate technical source for typical appearance of fungal elements. Significant findings include: true hyphae (hyaline, dematiaceous, zygomyceteous) in any specimen; true hyphae resembling a dermatophyte in hair, skin, or nail specimens; fungi in any normally sterile body fluid or tissue; and yeast cells or spherules suggesting *Blastomyces*, *Coccidioides*, *Histoplasma*, or *Paracoccidioides* spp.

Positive: Fungal elements present

Negative: Fungal elements absent

- *Experience is required in examining for fungal elements as background artefacts often give confusing results*
- *Hyaline fungi may be difficult to see if illumination is improperly adjusted*

- *Avoid direct contact -- potassium hydroxide solutions are extremely caustic and can cause severe burns or irritation on contact*
- *KOH slide preparations are not permanent since even fungi will eventually be destroyed by potassium hydroxide*
- *If a noticeable, heavy precipitate forms discard the KOH solution*

### **Storage and Shelf Life**

Our Potassium Hydroxide Solutions should be stored at room temperature and protected from light. Under these conditions, they have a shelf life of 52 weeks from the date of manufacture.

### **References**

1. McGinnis MR. Laboratory handbook of medical mycology. New York: Academic Press Inc., 1980.
2. Baron EJ, Tenover FC, Tenover FC. *Bailey's & Scott's diagnostic microbiology*. 8<sup>th</sup> ed. St. Louis: Mosby, 1990.
3. Isenberg HD, Ed. *Clinical microbiology procedures handbook*, Vol 1. Washington, DC: ASM, 1992.
4. Murray PR, Baron EJ, Pfaller MA, Tenoer FC, Tenover FC, Tenover FC, Eds. *Manual of clinical microbiology*. 7<sup>th</sup> ed. Washington, DC: ASM Press, 1999.

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