



Hydrophilic Plus Microscope Slides

Summary and Explanation The **Hydrophilic Plus Microscope Slides** are novel positively charged hydrophilic slides that prevent tissue detachment after thermal permeabilization and can be used to mount and process IHC, ICC, FISH and CISH samples, including those to be subjected to Heat-Induced Epitope Retrieval (HIER) procedures.

Hydrophilic Plus Slides are prepared by covalent coupling of positively charged amino groups directly to the slide surface. The **Hydrophilic Plus Microscope Slides** carry approximately three-times the number of surface-bound positive charges compared to the other commercially available positively charged slides and, unlike other positively charged slides, display strong hydrophilic nature of its working surface. This results in significantly improved tissue-adhesion characteristics, facilitates uniform/reproducible staining and reduced staining artifacts/background.

Presentation The **Hydrophilic Plus Microscope Slides** are supplied in boxes of 100 slides.

Size 25mm x 75mm x 1mm

Availability	Catalog No.	Number per Box
	BSB 7028	100

Storage Store at Room Temperature **Stability** STABLE

Precautions For professional users. Avoid any contamination. Proper handling procedures should be used.

- Protocol**
- Cut and mount formalin-fixed paraffin-embedded tissues, frozen tissues or cells on Hydrophilic Plus Microscope Slides.
***Note:** Given the water distribution on Hydrophilic Plus Slides, when mounting please secure tissue section with forceps or another adequate device. Allow excess water to drain or apply an absorbant material to do so.
 - Air dry for 2 hours at 58°C or overnight at 37°C.
 - Use mounted slides immediately or store at room temperature.

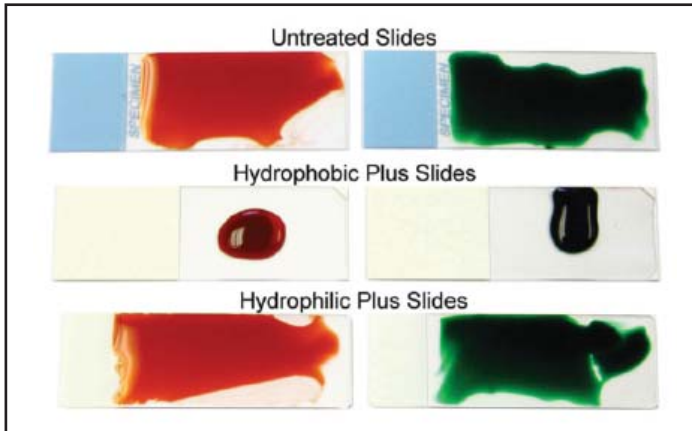


CHARACTERISTICS OF HYDROPHILIC SLIDES

- The Hydrophilic Plus glass slides carry approximately three-times the number of positive charges compared to the commercial positively-charged slides
- The Hydrophilic Plus glass slides are strongly hydrophilic
- The Hydrophilic Plus glass slides display improved tissue-adhesion characteristics compared to other commercially available slides
- All commercially available positively-charged microscope slides were found to be hydrophobic.

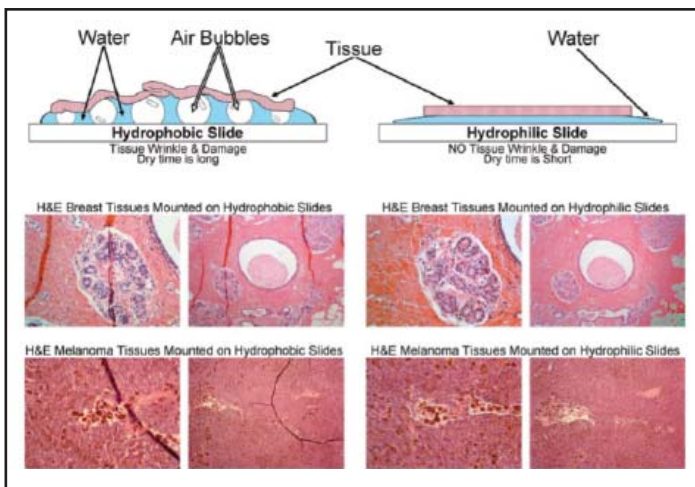
DIFFERENT EXPERIMENTAL SLIDES

Water Distribution on a Surface for Untreated, Hydrophobic and Hydrophilic Slides.



A 200 ul drop of colored TBS was spread over the total working areas of different microscope slides (estimated at 1100mm²). The TBS spread over 85% of the working surface of untreated microscope slides and over 86.5% of the Bio SB Hydrophilic Plus slides. In contrast, TBS was able to cover only 15% of Probe On Plus slides working surface. These results demonstrated the hydrophilic nature of Hydrophilic Plus slide surface.

WATER AND AIR BUBBLES TRAPPING, TISSUE DAMAGE AND WRINKLING AFTER MOUNTING TISSUES ON HYDROPHOBIC AND HYDROPHILIC SLIDES

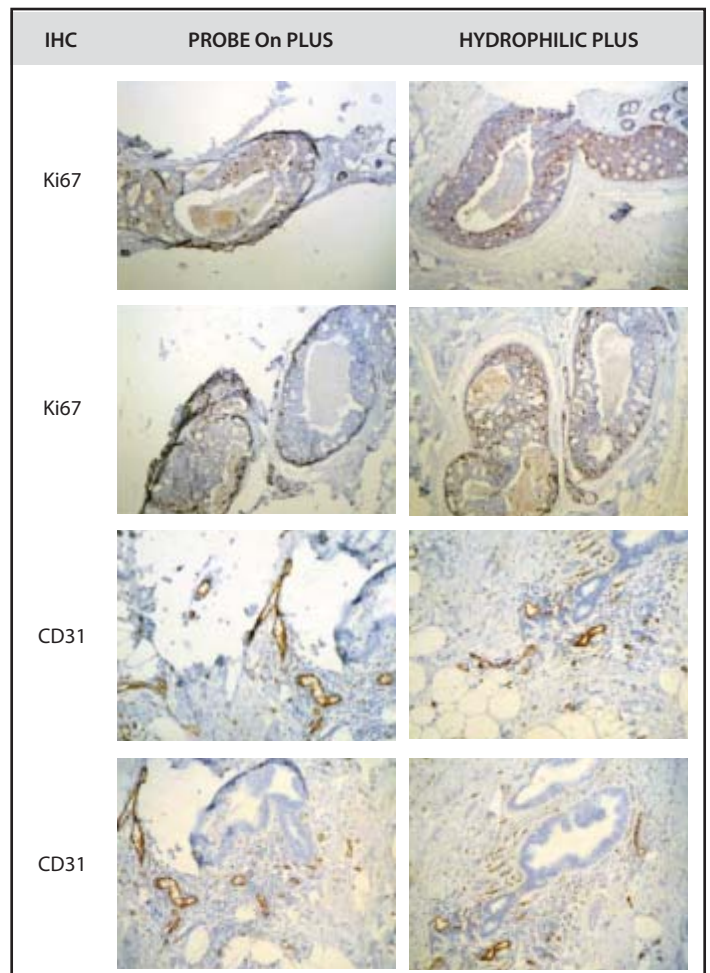


Reduced water to slide surface contact angles for hydrophilic slides when compared to standard hydrophobic charged slides, allows water to form a single thin continuous layer rather than a layer of water drops separated by air bubbles. This prevents micro air bubbles from being captured under tissue sections and, in turn, reduces possible artifacts, such as bubbles or water drops, that can interfere with tissue attachment to the slide. Generally, a more uniform and thinner layer of water under the cut tissue section results in less trapping of bubbles and tissue wrinkling and facilitates faster drying after mounting them on Hydrophilic Plus slides.

Slide Name	Brand	Tissue Retention	IHC Signal/Background
Hydrophilic Plus	Bio SB, Inc	90 - 100%	3- 4 / +
Superfrost Plus	Company A	10- 50%	3- 3+ / +
Probe On Plus	Company A	10- 50%	3- 3+ / +
Color Mark	Company B	5 - 40%	3- 3+ / +
Snow Coat X-tra	Company C	5 - 30%	3- 3+ / +
Silanized	In-House	5 - 40%	3- 3+ / +

Tissue adhesion was measured on various types of microscope slides. The results showed that Hydrophilic Plus slides had the highest percentage of tissue retention (90-100%).

MICROSCOPIC COMPARISON OF TISSUE RETENTION AND IHC OF Ki67 AND CD31 USING PROBE ON PLUS AND HYDROPHILIC PLUS SLIDES



Our studies have shown that the **Hydrophilic Plus Slides** are suitable for IHC, ICC, CISH and FISH and are superior in their capacity to retain tissues that otherwise tend to detach from slides after thermal antigen retrieval procedures. In general, 90 to 100% of tissues that were damaged or detached from traditional hydrophobic slides were fully retained by the hydrophilic slides, without affecting tissue morphology and the quality of IHC signals.