

FDR D-EVO II with Hydro AG

The world's first DR detector with an antibacterial coating

FUJIFILM has developed a durable antibacterial nano-coating called **Hydro AG**, which provides an innovative layer of protection that suppresses growth of various types of bacteria, microorganisms and mold on a detector's surfaces.

Healthcare-associated infections (HAI) are an alarming, yet often preventable, threat to patient safety. One CDC survey found that on any given day, about 1 in 25 hospital patients had at least one HAI.¹ An estimated 722,000 patients acquired HAIs in the U.S. during stays at acute care hospitals in 2011, and approximately 75,000 died with them.¹ Without proper infection controls, surfaces can breed 100's of bacteria types and breed the multiplication of bacteria into colonies.

In 2014, Centers for Medicare Medicaid Services (CMS) planned to pay bonuses to 1,700 hospitals for achieving their quality goals, but fewer than 800 actually received bonuses due to failing the CMS measure of preventing HAIs and other complications unrelated to original patient condition.

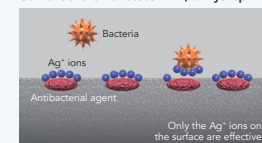
The good news is that progress is being made in infection control in U.S. hospitals: the CDC's annual HAI Progress Report describes significant reductions for nearly all infections, ranging from an 8% decrease in MRSA to a 46% decrease in CLABSI.² Additional work is needed to continue to improve patient safety. To help prevent chances of contaminated detector surfaces, Fujifilm is leading the drive to do things differently with the introduction of our Hydro AG antibacterial coating on our detectors.

Hydro AG, coupled with properly followed Infection Control policies, can provide an added safety measure in preventing colonization of bacteria on detector surfaces.

Hydro AG prevents the growth of bacteria using a new concept that combines silver-antibacterial agents and a super hydrophilic binder. This unique composition supplies silver ions not only from the surface like traditional coatings, but also from within the coating layer. The "Hydro" effect of this coating uses simple moisture from ambient conditions or wipe down to stimulate and regenerate germ-killing silver ions from within the coating, thereby increasing the antibacterial effect at the surfaces. As a result, the concentration of silver at the surface is maintained at a consistently high level, guaranteeing excellent and persistent antibacterial performance over a long period of time.

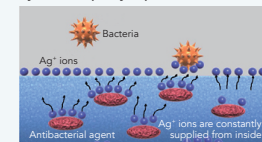
Antibacterial properties of conventional silver-based film and Hydro AG

Conventional silver-based film (nonhydrophilic)



Bacteria multiply due to the lack of Ag⁺ ions on the surface

Hydro AG (super hydrophilic)



Bacteria do not multiply due to the constant supply of Ag⁺ ions on the surface

¹ CDC HAI Prevalence Survey. Magill SS, Edwards JR, Bamberg W, et al. Multistate Point-P.

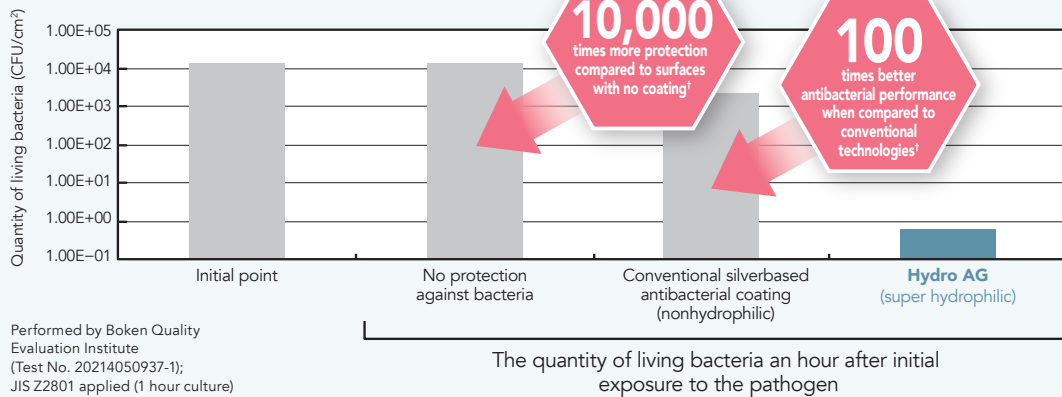
² National and State Healthcare-Associated Infections Progress Report, 2013. Public Health Reports.

Long-lasting durability with 100× the antibacterial properties of conventional technology

Based on the results of an antibacterial performance test with Hydro AG (conducted according to JIS Z2801/ISO22196) the quantity of bacteria decreased by 99.99% or more within an hour after initial exposure to the pathogen. These results demonstrated that Hydro AG's antibacterial properties are greater than 100 times that of the conventional silver-based coating film comprised of nonhydrophilic polymer and 10,000 times more protection than surfaces with no coating.*

Antibacterial performance test (according to JIS Z2801/ISO22196)

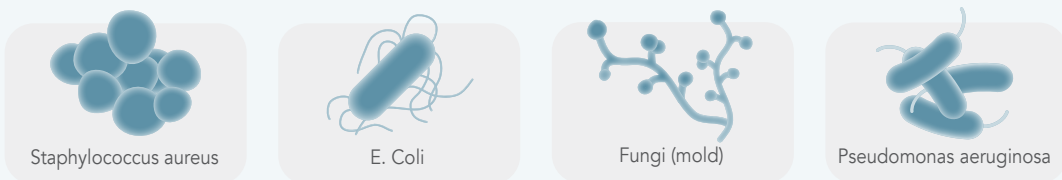
The quantity of living bacteria decreased by **99.99%** or more within an hour after initial exposure to the pathogen.



* Compared to the performance of the most capable antibacterial LCD protective film in the 2014 market; based on a JIS Z2801 compliant evaluation, where results were obtained an hour following initial exposure to the pathogen.

Effective against a wide range of bacteria and microorganisms

Hydro AG suppresses the growth of not only bacteria, but also various other types of microorganisms including mold. It has acquired the SIAA symbol (Society of Industrial Technology for Antimicrobial Articles) and has been confirmed as being highly safe.



The SIAA mark is displayed on products for which quality management and information have been published in SIAA guidelines based on results evaluated according to the ISO22196 requirements

The SIAA mark can only be displayed on antibacterial processed products that meet the antibacterial and safety standards determined by the Society of Industrial Technology for Antimicrobial Articles (SIAA) in Japan. The antibacterial properties determined by the SIAA include the reduction of bacteria on the surface of products that have undergone antibacterial processing to less than 1% in 24 hours. There are also strict rules regarding the safety of the antibacterial agents used.

- 1) Acute oral toxicity with a LD50 (amount at which half of mice etc. will die if administered) of 2,000 mg/kg or greater
- 2) Skin primary stimulation absent or weak
- 3) No mutagenicity
- 4) No skin sensitization

*Reduction in colonization or bacterial growth on the device has not been shown to correlate with a reduction in infections in patients. Clinical studies to evaluate reduction in infection have not been performed.