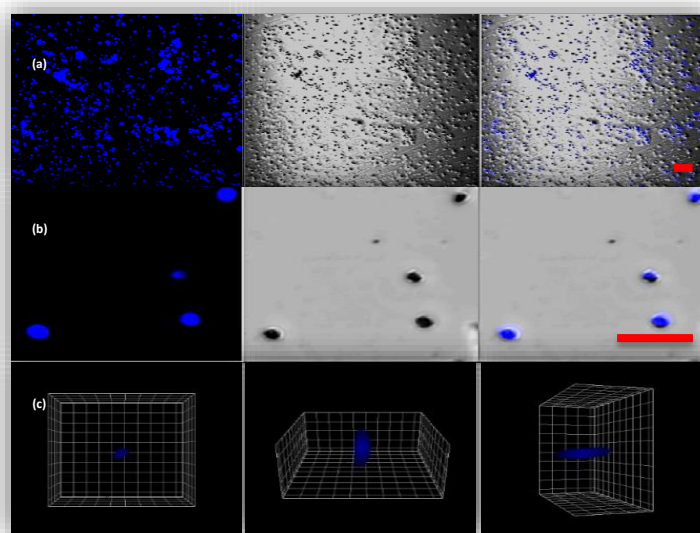




## SPOROTAN: A spore-selective fluorescent dye for identification of cryptic Bacterial Spores (Patent no. 201941052617)

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This technology is related to a practical and efficient spore selective fluorescent dye composition (Sporotan) for identification and staining of bacterial spores. Bacterial spores are formed in response to adverse environmental conditions and help in the survival of the organisms. These dormant states (i.e., no



metabolic activity) are highly resistant to debilitating effects such as heat, dehydration, radiation and chemicals. With the antibiotics and sterilization techniques being ineffective against the spores, the food and medical industries are facing high risks. Therefore, It would be highly desirable to develop an efficient, cost-effective, photo-stable agent for fluorescence imaging of spores and their viability, which would be easily synthesized and non-cytotoxic.

The diaminodicyanoquinodimethane (DADQ) molecules with selected functionalities are efficient photostable dyes for fluorescence imaging and are non-cytotoxic. The UoH team developed a first of its kind novel spore selective fluorescent dye, which specifically binds to bacterial spores (both endo and exospores) and a quick and simple technique for fluorescent staining of the spores in their dormant state. The novel stain comprises a synthetic specific DADQ derivative, 7,7-bis(n-hexylamino)-8,8-dicyanoquinodimethane (BHADQ). The staining protocol is simple, requiring no prior heating or chemical treatment and non-destructive nature of the stains.