

## **Applicability of the forensic BlueStar® forensic test to latent blood traces**

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A study performed at the Forensic Science Laboratory (CFP) proved that the BlueStar® forensic test gives the expected results and is more appropriate in detecting latent traces of blood than the classical luminol test that is used in the CFP. A validation study verified the sensitivity, repeatability, reliability and robustness of the BlueStar® forensic test. Human blood diluted in different ratios was used for sensitivity assessment. Robustness was checked with various eliminations and concealments. Splinter plates were washed with water, household detergent and with detergent which contained bleach until no blood stain was visible. Blood stains were washed from woven fabric in a washing machine at 40°C. On wood and blotting paper, blood stains were whitewashed. The brightness intensity of the BlueStar® forensic test is higher than the luminol test, chemoluminescence is longer, total darkness is not needed, it has no affect on DNA and it is more reliable. The BlueStar® forensic test does not react with the detergents and whitewash colors used, in contrast with luminol test, which reacts with Jupol white indoor color and detergent containing bleach. The BlueStar® forensic test is stable for 72 hours and is still effective after several sprayings on samples. The chemoluminescence intensity expansion is proportional with spraying. A complete STR profile was successfully defined with all samples by using a commercial AmpFISTR SGMPlus kit.

**Key words:** criminalistics, forensic sciences, blood stains, latent bloodstain reagents, detection of bloodstains

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