
Validated strain list for fluorescent WGA gram staining

Gram-positive strains with validated staining:

Bacillus megaterium²
Bacillus sp.²
Bacillus subtilis⁵
Corynebacterium sp.²
Lactobacillus acidophilus²
Lactococcus lactis^{1,2}
Listeria monocytogenes⁴
Micrococcus luteus^{1,2}
Micrococcus spp.²
Mycobacterium smegmatis²
Sporosarcina ureae²
Staphylococcus aureus^{1,2,3}
Staphylococcus epidermidis²
Staphylococcus saprophyticus²
Streptococcus agalactiae¹
Streptococcus dysgalactiae¹
Streptococcus faecalis²
Streptococcus mitis²
Streptococcus pyogenes²
Streptococcus uberis¹

Gram+ strains with poor staining:

Bacillus cereus¹

Gram-negative strains verified as non-staining:

Acinetobacter calcoaceticus²
Alcaligenes faecalis²
Burkholderia cepacia³
Cytophaga sp.²
Enterobacter aerogenes²
Enterobacter cloacae^{1,2}
Escherichia coli^{1,2}
Klebsiella oxytoca¹
Klebsiella pneumoniae²
Morganella morganii²
Proteus mirabilis²
Proteus vulgaris²
Pseudomonas aeruginosa³
Rhodospirillum rubrum²
Salmonella typhimurium²
Serratia marcescens²
Shigella sonnei²

Gram- strains with inconsistent staining:

Pseudomonas fluorescens¹
Pseudomonas putida¹

References:

1. Holm C, Jespersen L. (2003) [A flow-cytometric gram-staining technique for milk-associated bacteria](#). Appl Environ Microbiol. May;69(5):2857-63. doi: 10.1128/AEM.69.5.2857-2863.2003.
2. Sizemore RK, et al. (1990) [Alternate gram staining technique using a fluorescent lectin](#). Applied and Environmental Microbiology. July, 56 (7) 2245-2247.
3. R ger M, et al. (2014) [Species-specific viability analysis of Pseudomonas aeruginosa, Burkholderia cepacia and Staphylococcus aureus in mixed culture by flow cytometry](#). BMC Microbiol. Mar 7;14:56. doi: 10.1186/1471-2180-14-56.
4. Eugster MR and Loessner MJ. (2011) [Rapid analysis of Listeria monocytogenes cell wall teichoic acid carbohydrates by ESI-MS/MS](#). PLoS ONE. 6(6): e21500.
5. Hayhurst EJ, et al. (2008) [Cell wall peptidoglycan architecture in Bacillus subtilis](#). PNAS. 105 (38) 14603-14608.