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(54) Title: METHODS FOR ANALYSIS OF BIOLOGICAL SAMPLES

(57) Abstract: The present disclosure relates in some aspects to methods and compositions for quality control (e.g., assessing the level of fixation of a biological sample) and/or optimization of analyte detection in fixed samples. In some embodiments, the method can be used to process a fixed biological sample, the method comprising contacting the fixed biological sample with a nucleic acid stain and/or an actin stain; detecting an optical signal associated with the nucleic acid stain and/or an optical signal associated with the actin stain; comparing the detected optical signal(s) to one or more references to determine the quality of the biological sample. Single cell analysis, spatial array based analysis or in situ analysis can be performed using the processed biological sample.