In many experimental histopathology studies, and some routine laboratory tests, an assessment of the proportion of cells stained by a reaction is made. This staining reaction is most commonly produced by immunohistochemistry, but can also be generated by in situ hybridisation or non-immunological histochemical staining. There is no standard method of assessing the proportion of stained cells, and the methodology described in publications ranges from rigorous quantitation using computerised image analysis systems to undefined subjective categories.

One of the most common methods is semiquantitative estimation by human observers.

In such systems, the proportion of cells that are stained is divided into approximately four arbitrary categories (for example, 0–25%, 26–50%, 51–75%, and 76–100%) and specimens are assigned to a category by an observer.

There is little standardisation in such schemes, with varying numbers of categories with different boundaries (for example, 0%, 1–10%, 11–50%, 51–100%;14 < 5%, 5–75%, > 75%,15 or 0%, < 10%, 11–40%, 41–70%, > 70% 16). Very few of the published studies that use such semiquantitative systems make any measurement of the interobserver and intra-observer reproducibility of the scoring, so it is often difficult to assess the validity of the results.