## **Research Highlights**

- 1 This review deals with gold nanoparticle-based colorimetric and electrochemical sensors developed in the past five years.
- 2 Application of gold nanoparticle-based colorimetric sensors in detection of illegal food additives is summarized.
- 3 Detection of common illegal additives using gold nanoparticle-based electrochemical sensors is discussed in detail.
- 4 Current challenges and future potential developments are discussed briefly.