Fig 1. Short legend
(For full legend, see Bergersen LH, Storm-Mathisen J, Gundersen V (2007) Nature Protocols.)
(a) A micrograph of an axon and its ensheathing myelin. The gold particles represent NMDA receptors. In (b) an overlay with three types of regularly spaced points is superimposed on the micrograph for measuring areas of different sizes. (c) A higher magnification of the area outlined by blue. The yellow line delineates the midline of the outer myelin membrane. As the resolution of the immunogold method is 30 nm, gold particles situated within this distance can signal epitopes in the membrane. Thus, lines (red) are drawn 30 nm on each side of the midline of the outer myelin membrane. (d) An electron micrograph showing a terminal (Ter) with synaptic vesicles (one is marked with an arrowhead) making a synapse (asterisks) with an asymmetric specialization on a dendritic spine (Sp). The small gold particles in the terminal represent glutamate. In (e) a similar overlay as in (b) is superimposed. (f) and (g) show a higher magnification of the area containing the vesicle marked with the yellow arrowhead. (f) shows a micrograph without the overlay for better visualization of the vesicles. In (g) the membrane of the synaptic vesicles is delineated with a yellow circle. Taking into account the lateral resolution of the immunogold method, a red circle is drawn 30 nm outside the yellow one. (h) and (i) are higher magnifications of the synaptic area outlined in blue in (e). In (h) the density of gold particles associated with the membrane overlying the postsynaptic density (PSD) is estimated. The yellow line covers the midline of the postsynaptic membrane. An area is made by drawing lines (red) 30 nm outside the yellow one. In (i) the perpendicular distances from the center of the gold particles to the midline of the postsynaptic membrane are measured. These distances could be presented as frequency distributions, allowing us to assess on which side of the membrane the epitope is localized. (The overlay is adapted from Gundersen, H.J. et al. (1988) Some new, simple and efficient stereological methods and their use in pathological research and diagnosis. APMIS 96, 379–394.)