



Fusion Pore or Porosome: the secretory machinery at the cell plasma membrane. Porosomes in the exocrine pancreas (top panels) and neurons (bottom panels). In the top left panel, an electron micrograph of a single porosome at the apical plasma membrane (PM) of a pancreatic acinar cell is shown. Note the porosome membrane (POM, yellow arrowhead) associated with the membrane of a secretory vesicle (ZGM). A circular ring structure (blue arrowhead) forms the neck of the porosome complex. On the top right panel, is an atomic force micrograph of the apical end of a live pancreatic acinar cell, demonstrating the presence of four porosomes (one pointed by the yellow arrowhead). Porosomes in the exocrine pancreas range in size from 100 - 180 nm. In the bottom left panel, an electron micrograph of a neuronal porosome (red arrowhead) in association with a synaptic vesicle (SV) at the presynaptic membrane (Pre-SM) of the nerve terminal, is demonstrated. Note a central plug in the porosome complex. The bottom right panel is an atomic force micrograph of a neuronal porosome at the presynaptic membrane in live cell. Note the central plug (red arrowhead). The neuronal porosome is an order of magnitude smaller (10-12 nm) than the porosome in the exocrine pancreas