Lysosomes Lysosomes are sites of intracellular digestion and turnover of cellular components.lysis, solution, + soma, body) are membrane-limited vesicles that contain about 40 different hydrolytic enzymes and are particularly abundant in cells with great phagocytic activity (eg, macrophages, neutrophils).Membrane receptors for M6P-containing proteins in the trans Golgi network then bind these proteins and divert them from the secretory pathway for segregation into lysosomes.Although the nature and activity of lysosomal enzymes vary depending on the cell type, the most common are acid hydrolyases such as proteases, nucleases, phosphatase, phospholipases, sulfatases, and ?-glucuronidase.Lysosomal hydrolases are synthesized and segregated in the RER and then transferred to the Golgi apparatus, where the enzymes are further modified and packaged in vacuoles that form lysosomes.The marker mannose-6-phosphate (M6P) is added by a phosphotransferase in the cis Golgi only to the N-linked oligosaccharides of the hydrolases destined for lysosomes.This mixes the endocytosed material with the lysosomal enzymes and activates proton pumps in the lysosomal membrane that acidify the contents, allowing digestion.They function to degrade denatured or otherwise nonfunctional polypeptides.Lysosomes (Gr.

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