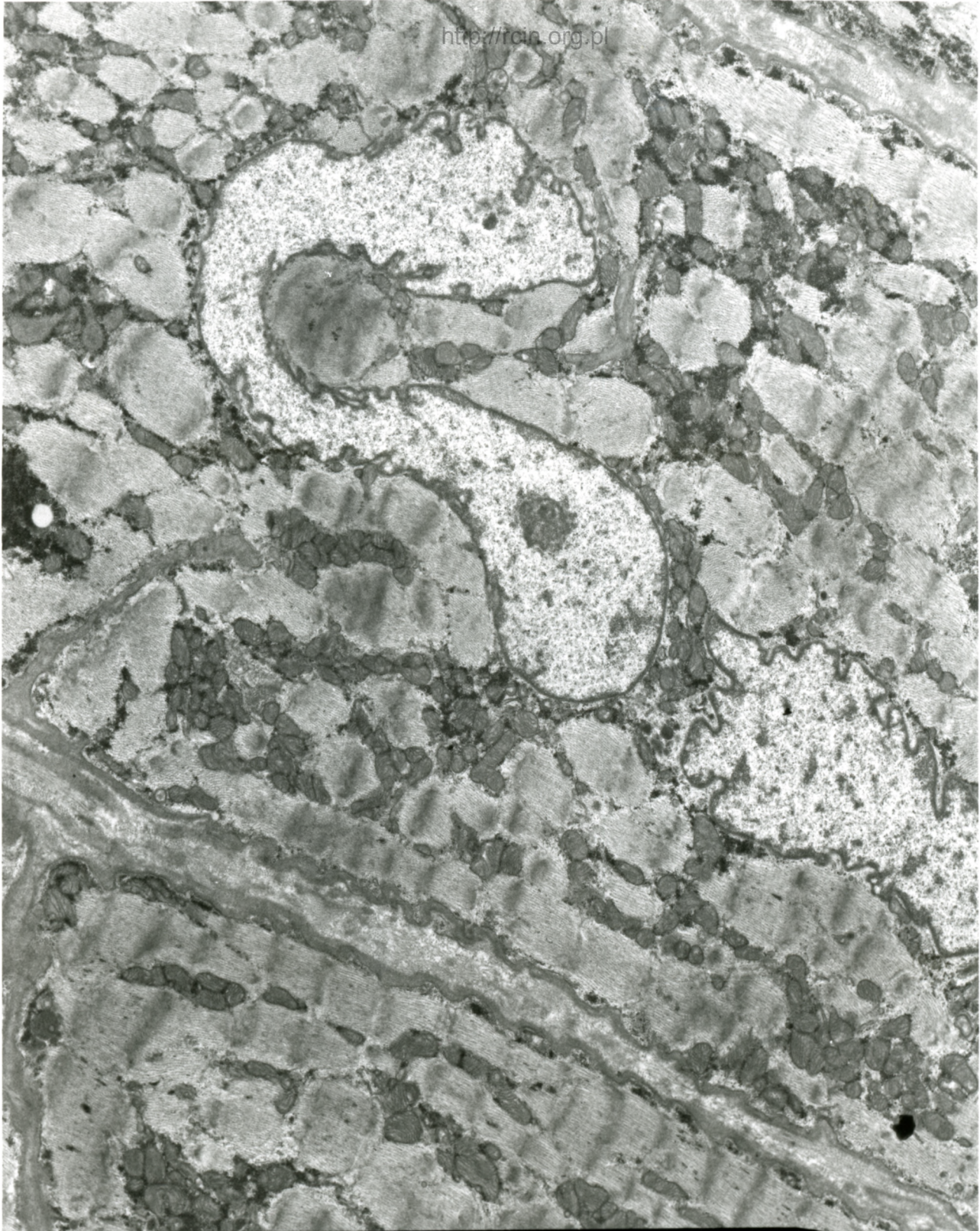


AF 53/12/1/SERCE  
121217 80.0KV X2500

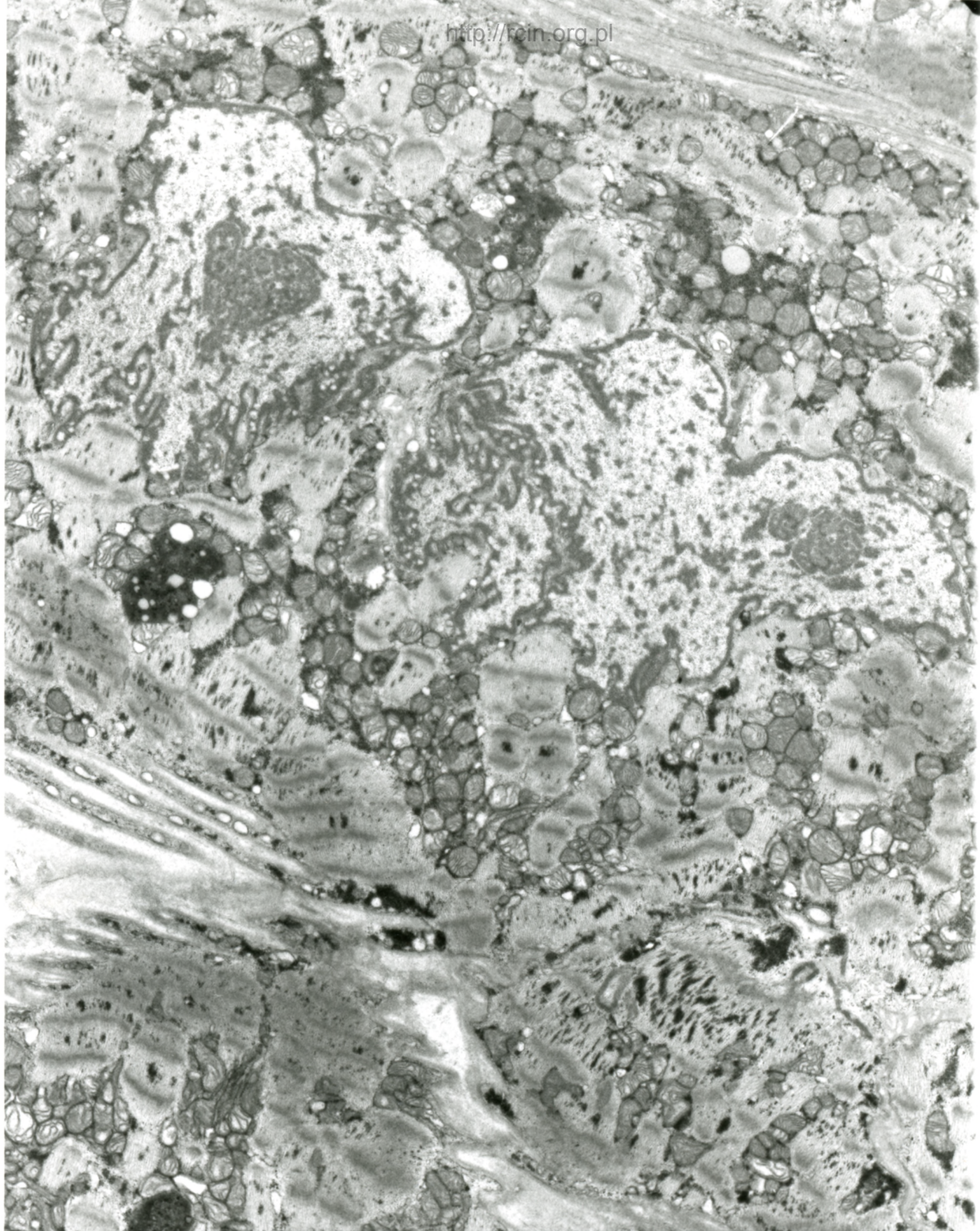


Fig. 1



AF 53/12/1/SERCE  
121219 80.0KV X2500 2µm

Fig. 2



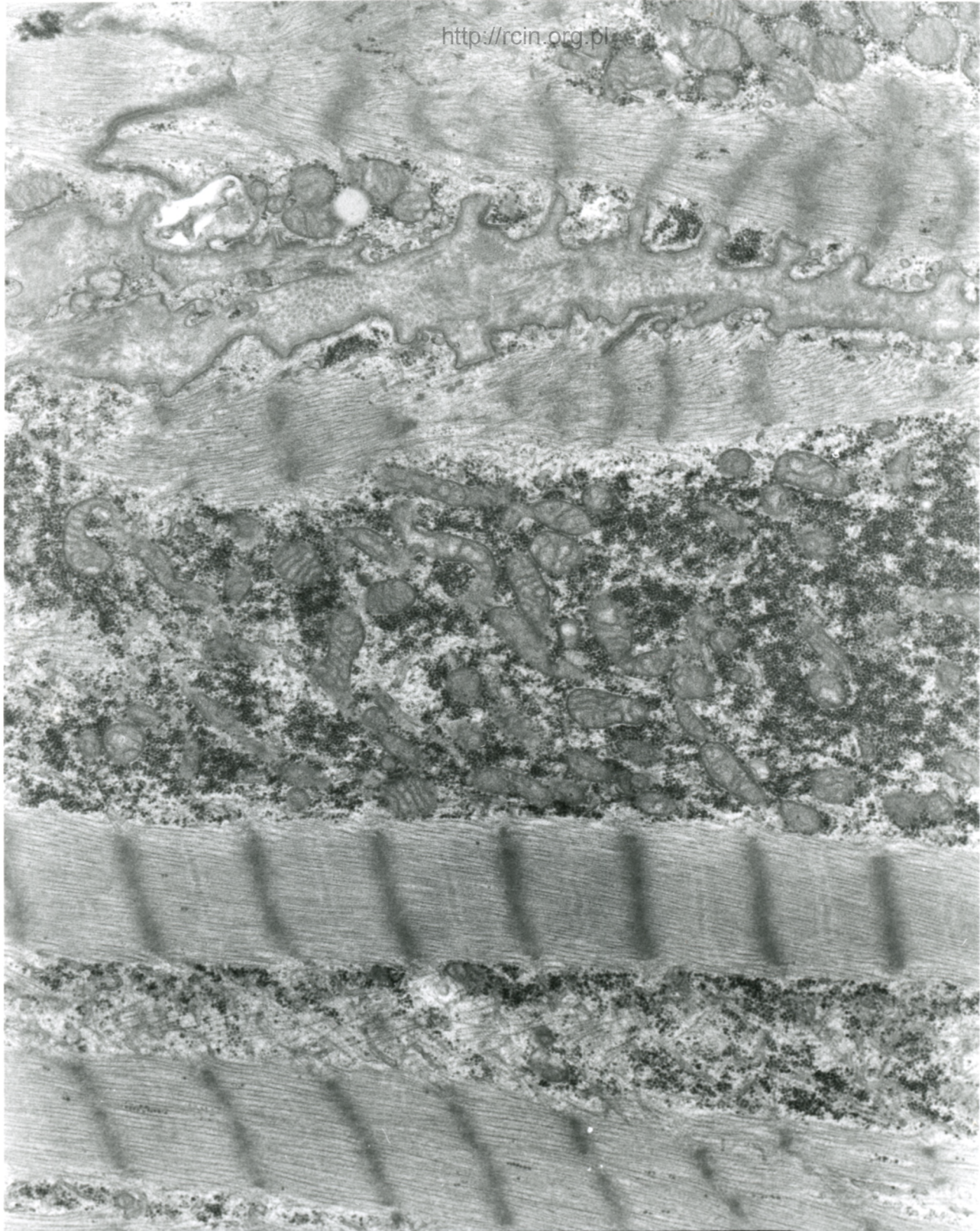
AF 53/12/1/SERCE  
121216 80.0KV X2500 2µm

Fig. 3



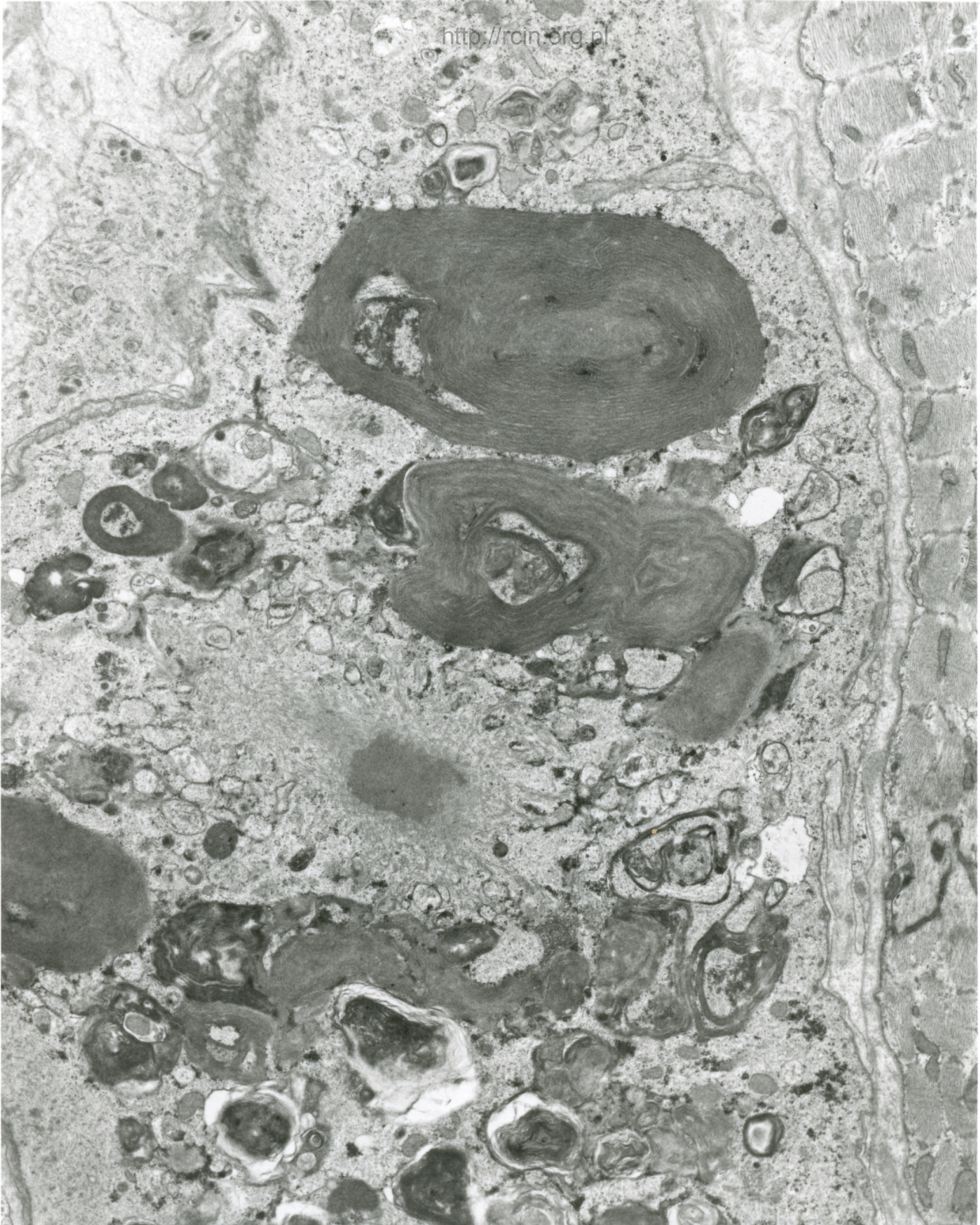
#F 53/12/1/SERCE  
121218 80.0KV X4000 2µm

Fig. 4



AF 53/012/2/SERCE  
121131 80.0KV X6000

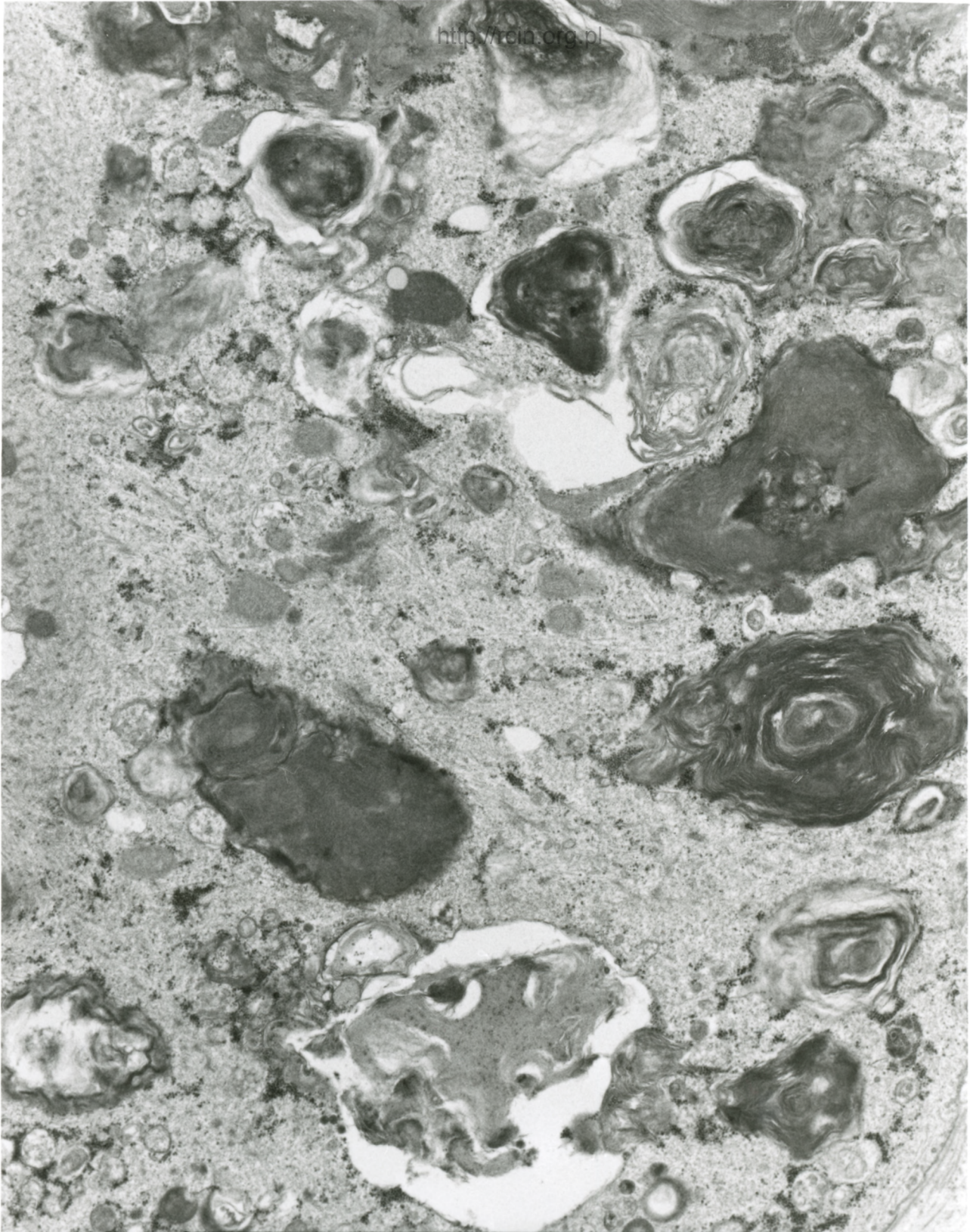
Fig. 5



AF 53/012/2/SERCE  
121220 80.0KV X2500

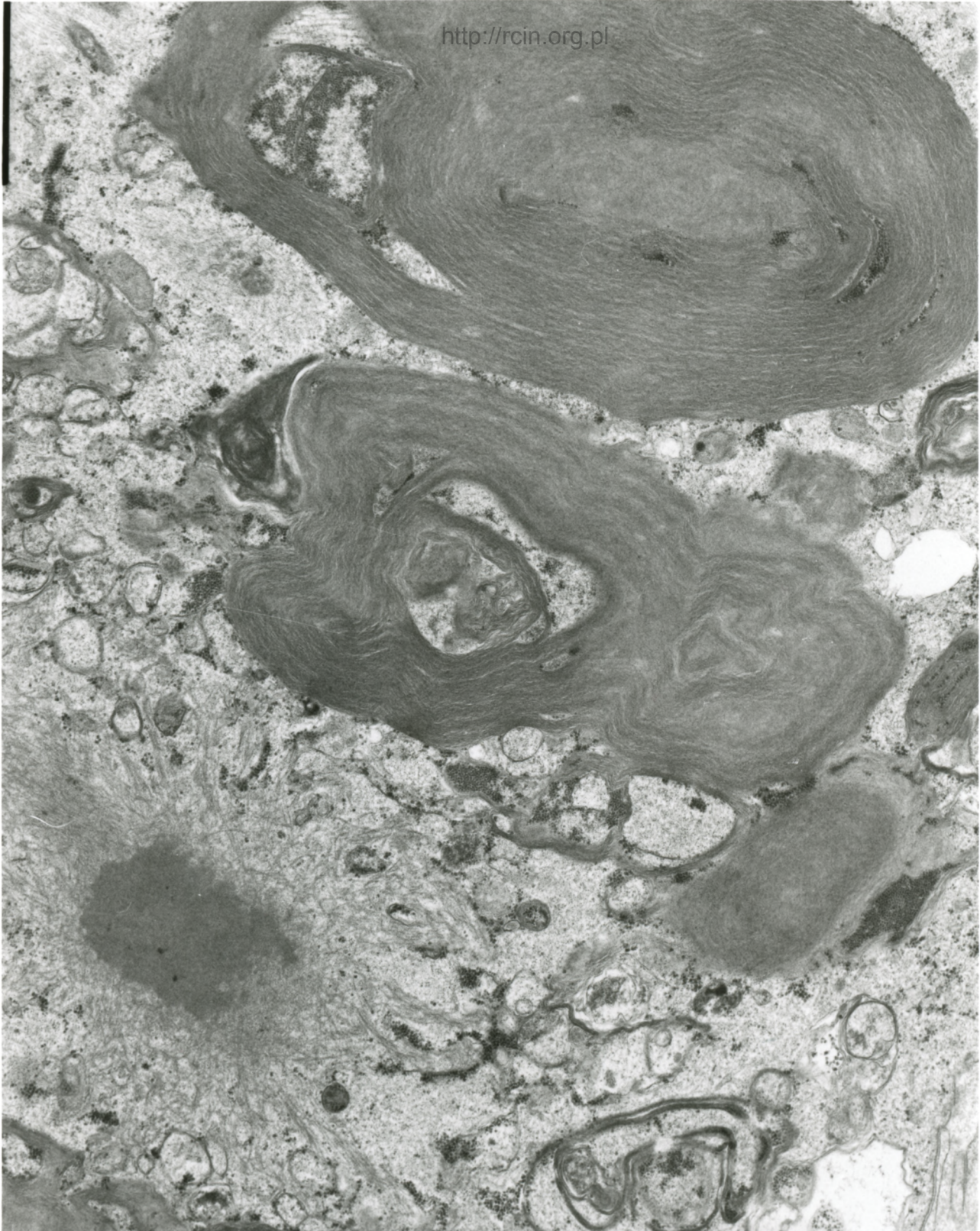


Fig. 6



AF 53/012/2/SERCE  
121222 80 OKU X4000 2UM

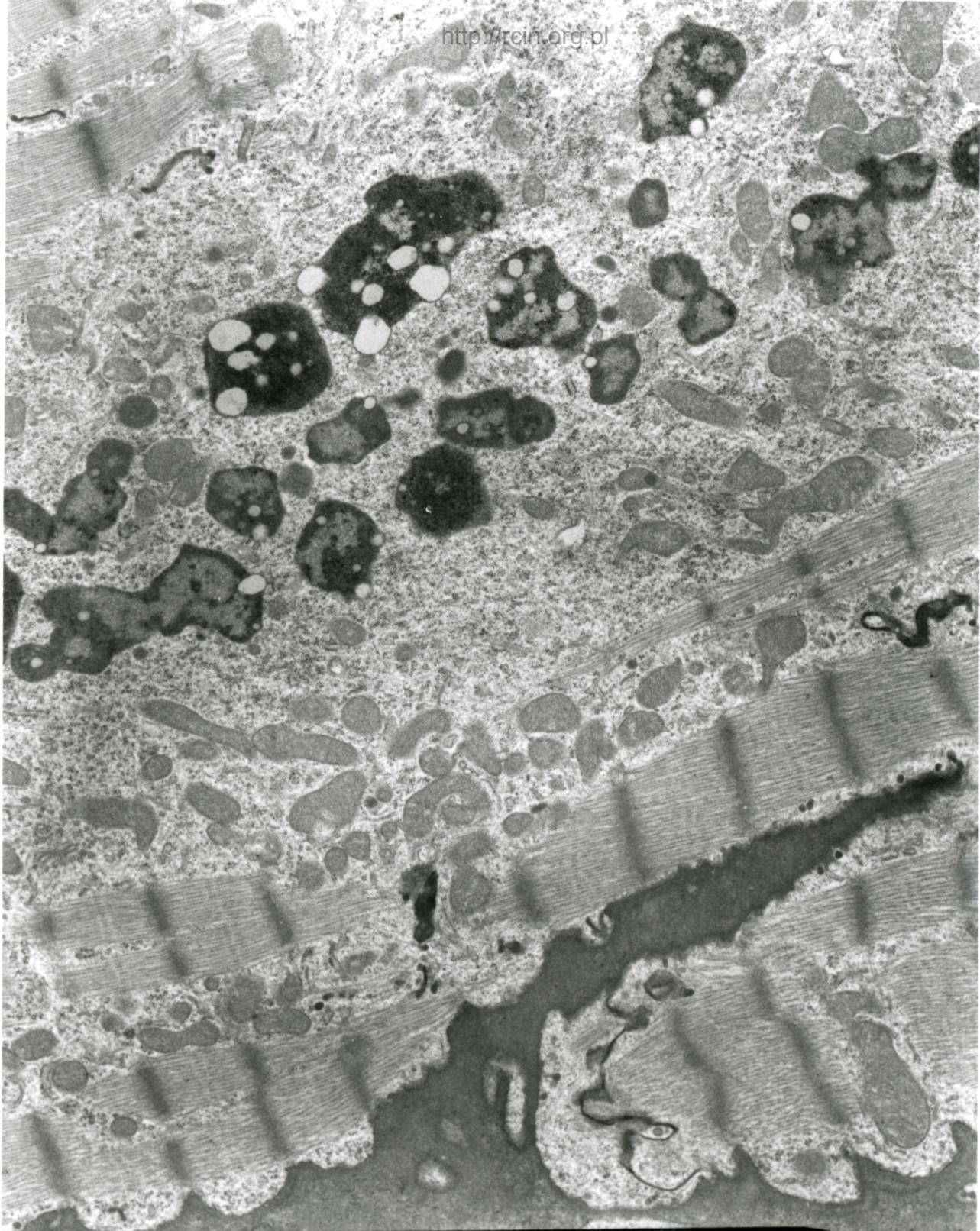
Fig. 7



AF 53/012/2/SERCE  
121221 80.0KV X5000

Fig. 8

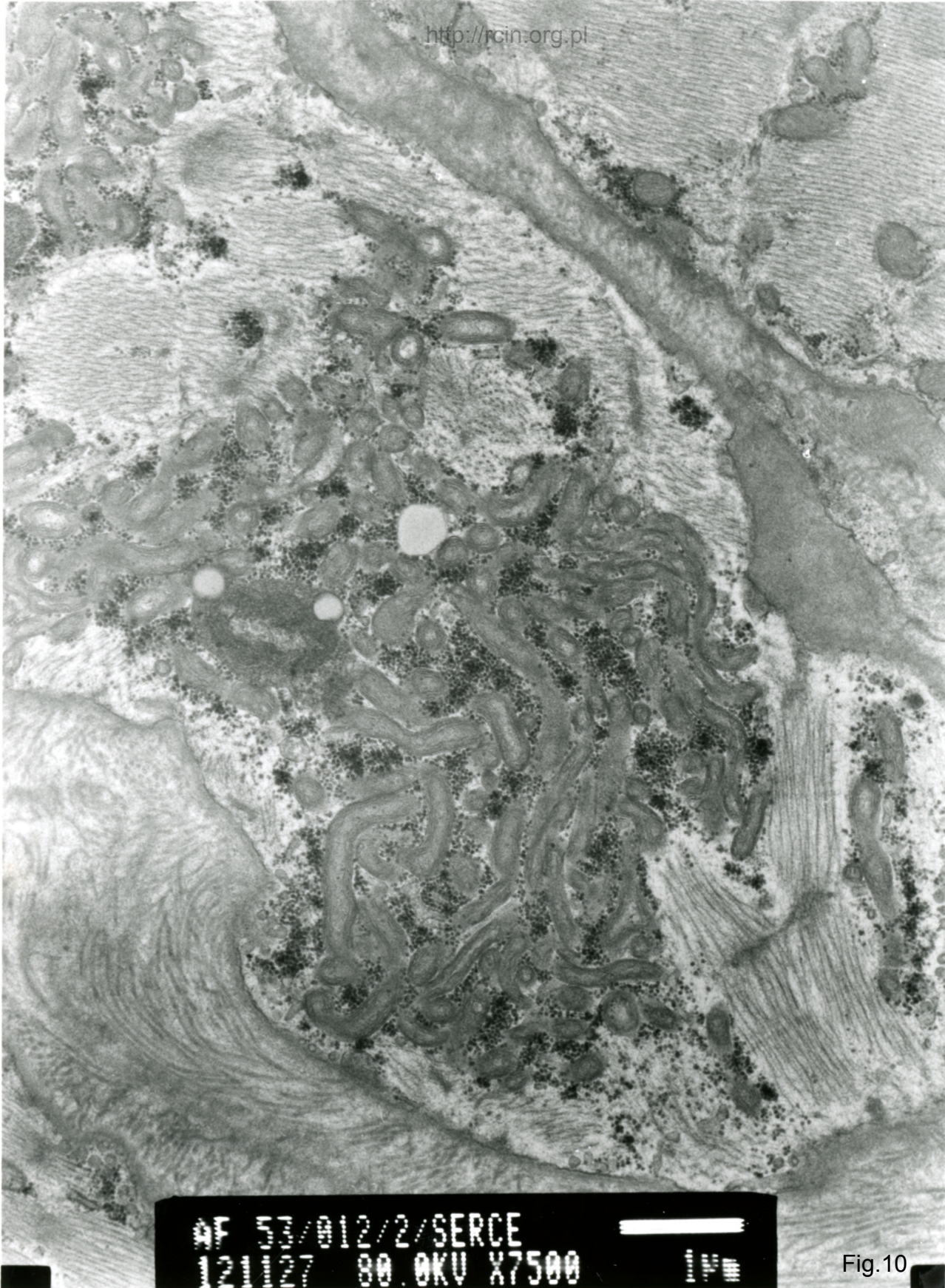




AF 53/012/2/SERCE  
121130 80.0KV X5000



Fig. 9



AF 55/012/2/SERCE  
121027 80.0KV X7500

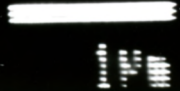
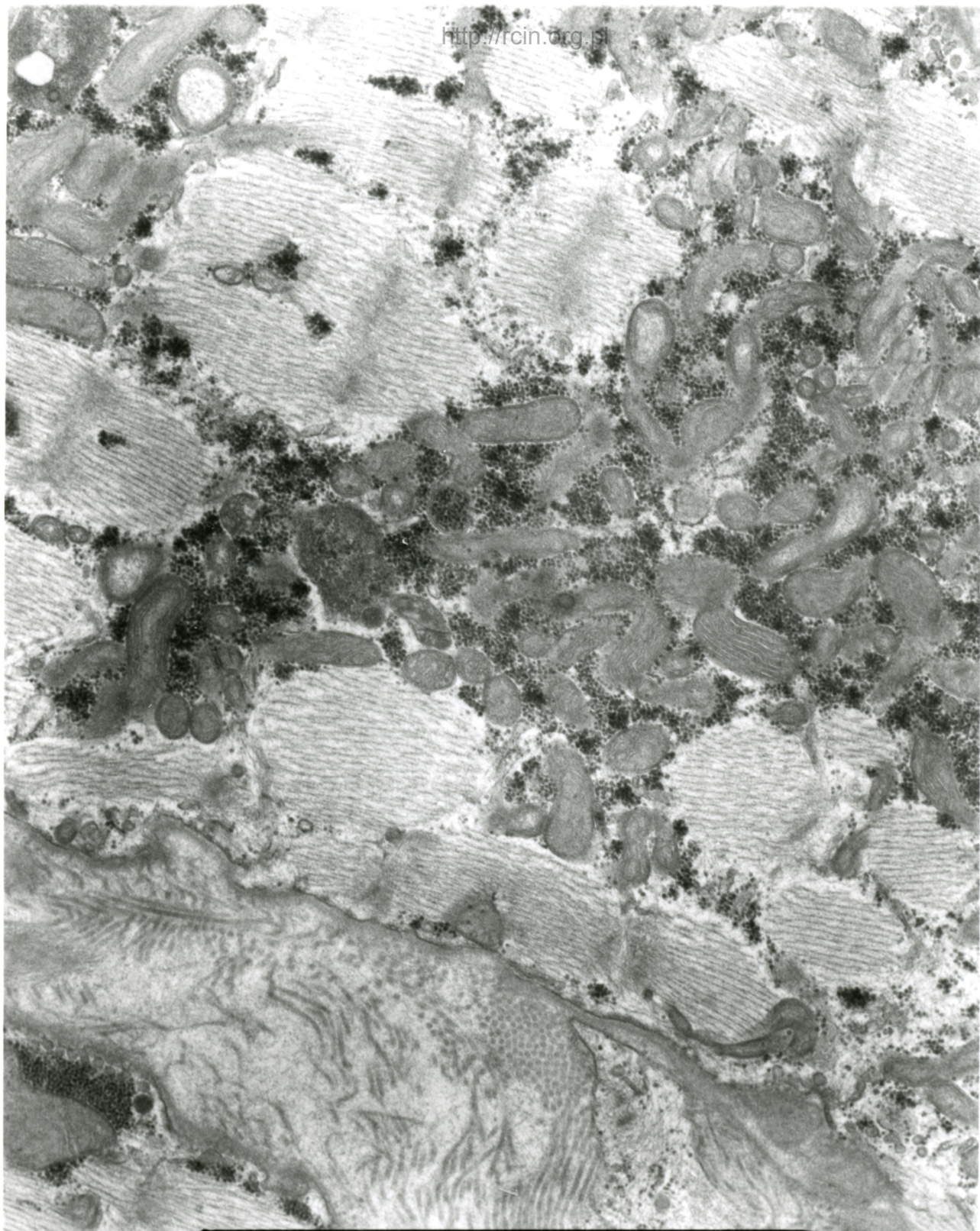
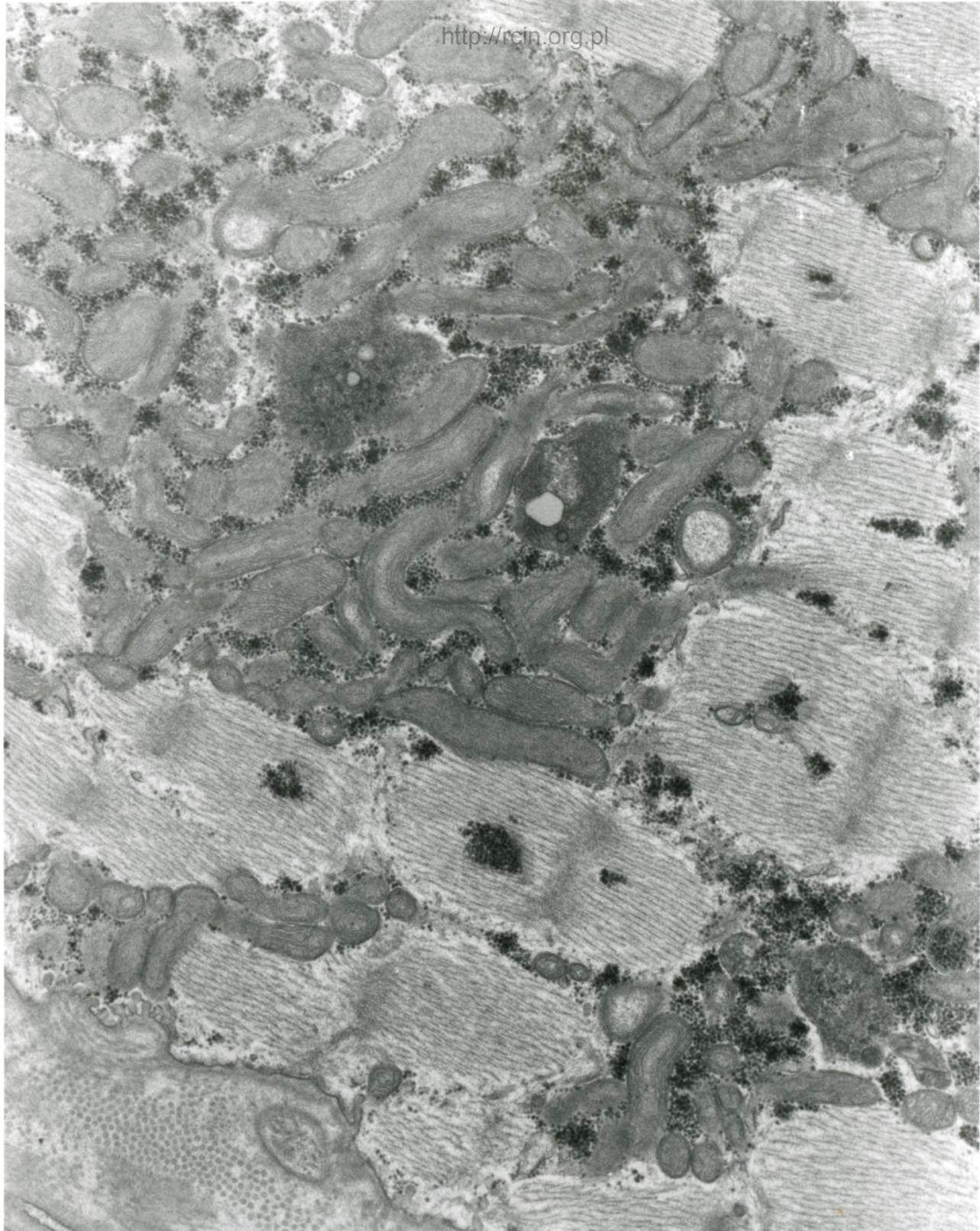


Fig.10



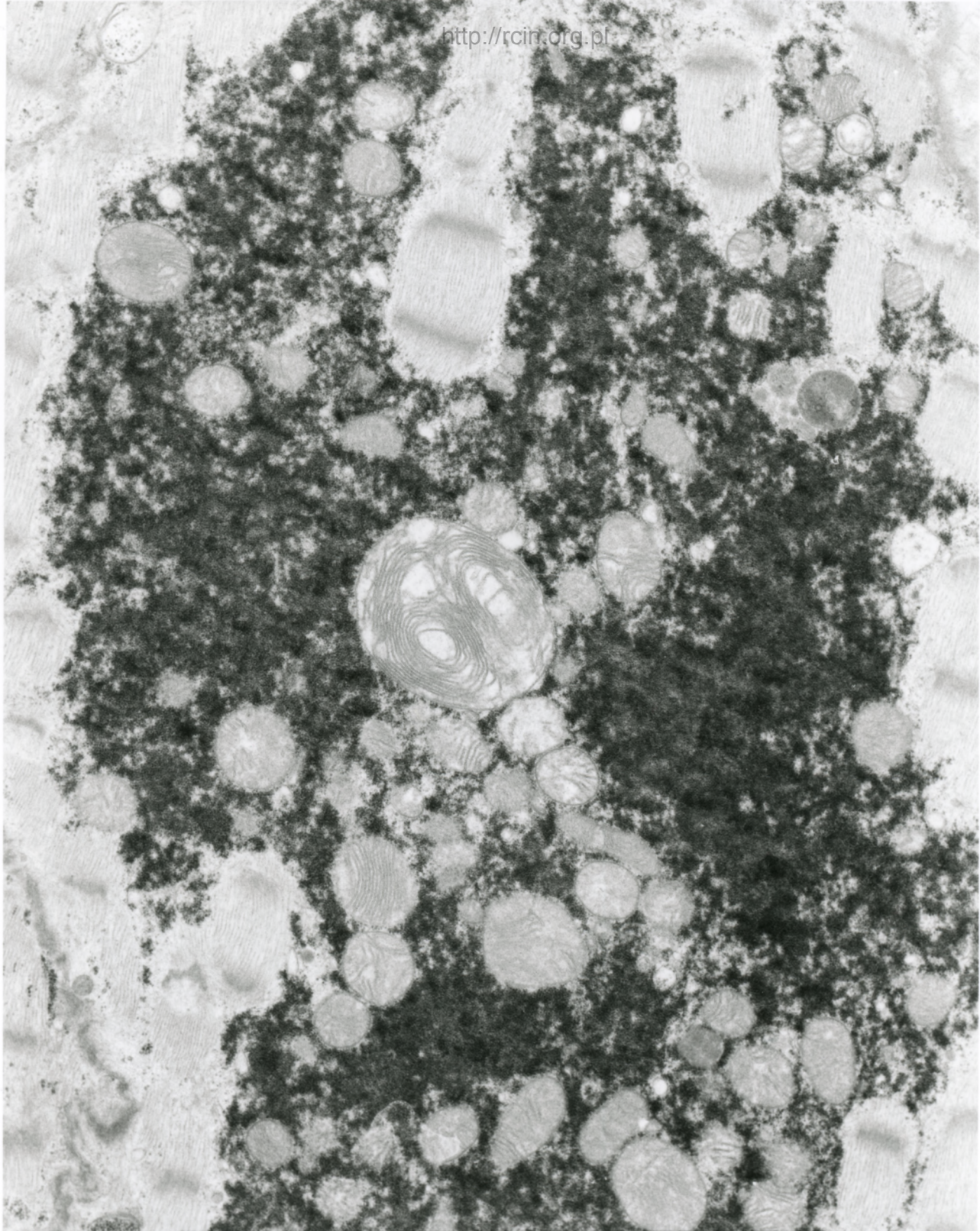
AF 53/012/2/SERCE  
121128 80.0KV X7500

Fig.11



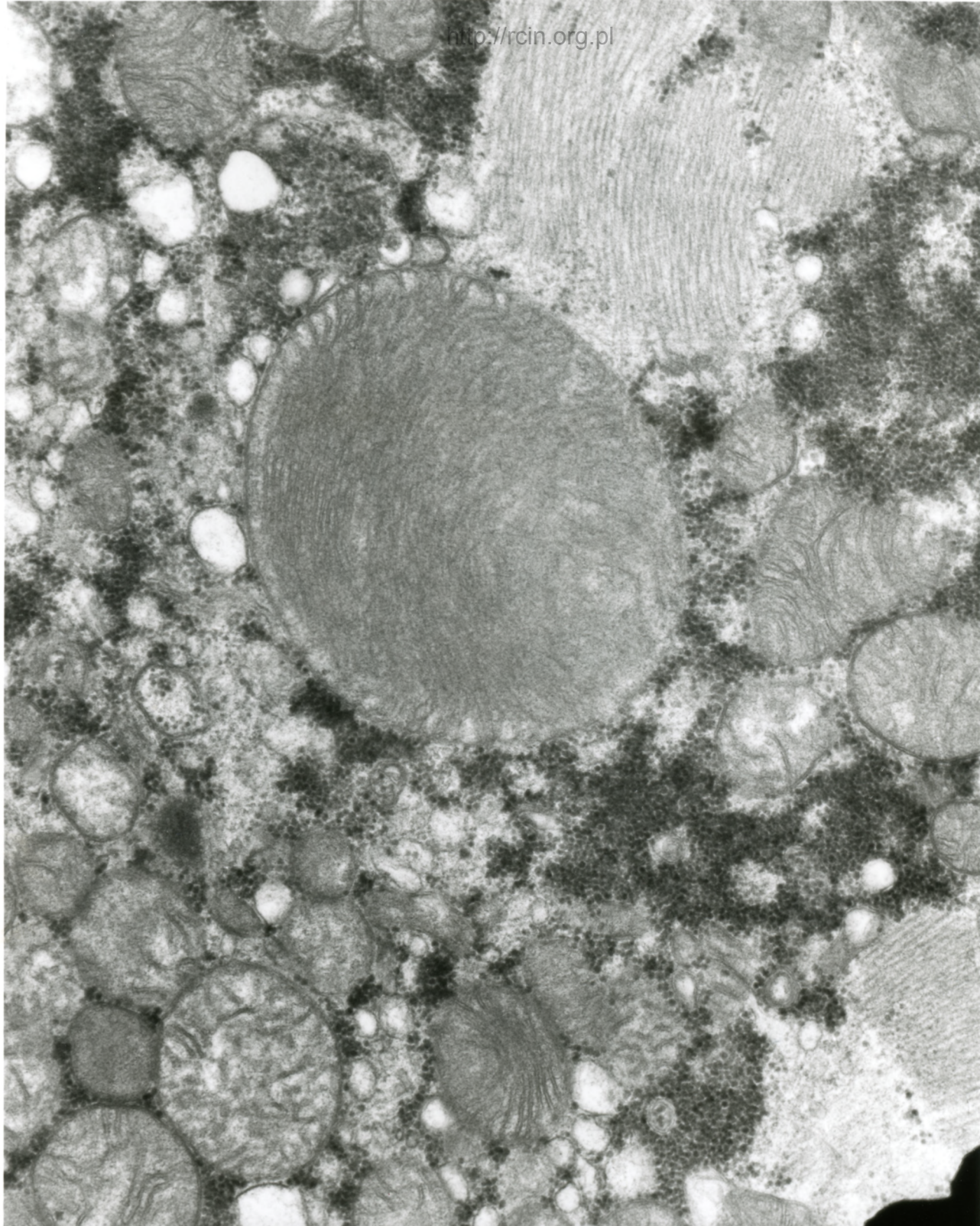
AF 53/012/2/SERCE  
121129 00 OKU X7500

Fig.12



BF 55/912/SERCE  
12/25 80.0KV X5000

Fig.13



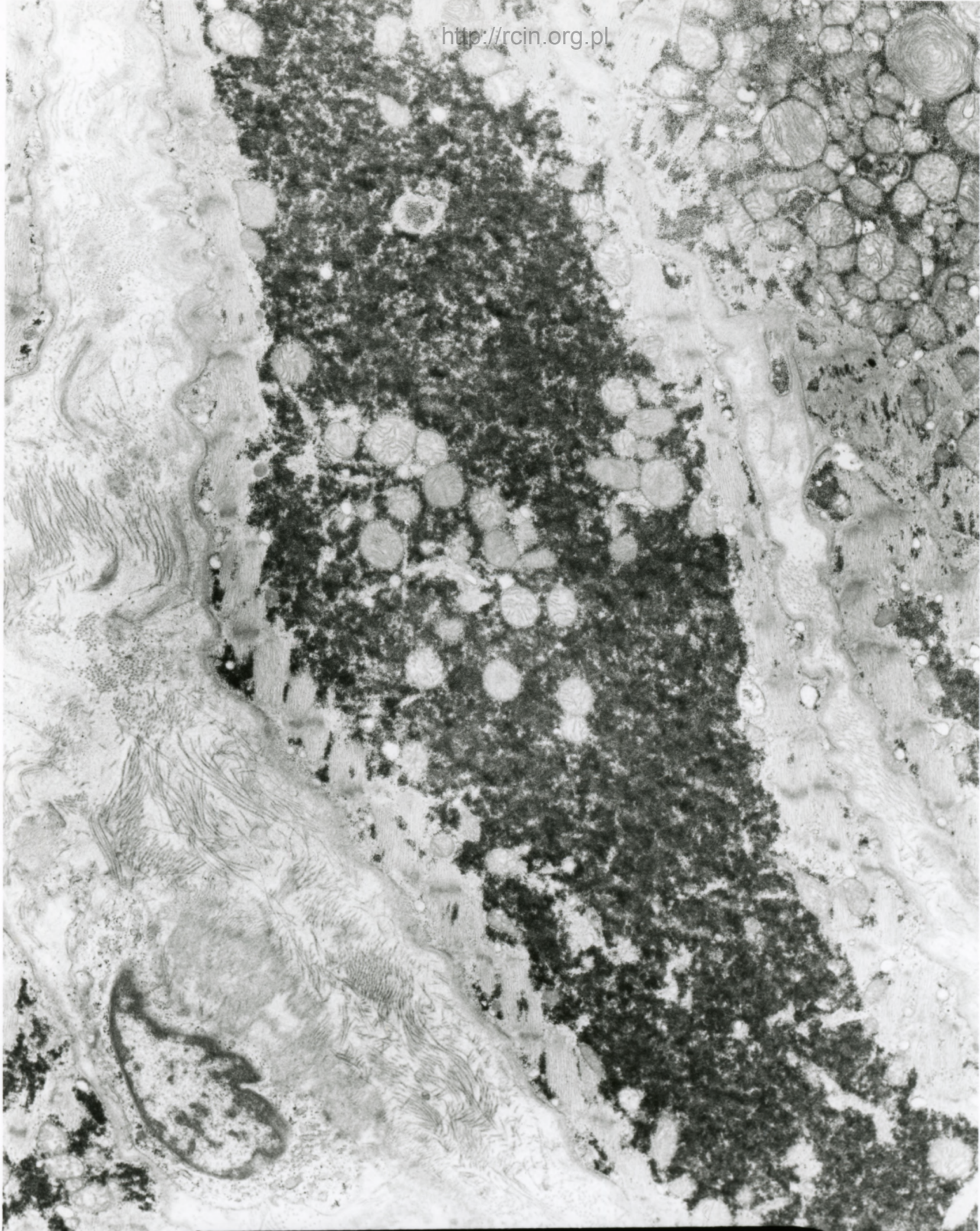
AF 33/12/1/SERCE  
121214 80.0KV X12K 500nm

Fig.14



AF 53/12/1/SERCE  
12/2/85 80.0KV X12K 500nm

Fig.15



AF 33/012/SERCE  
121126 80.0KV X3000

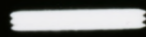
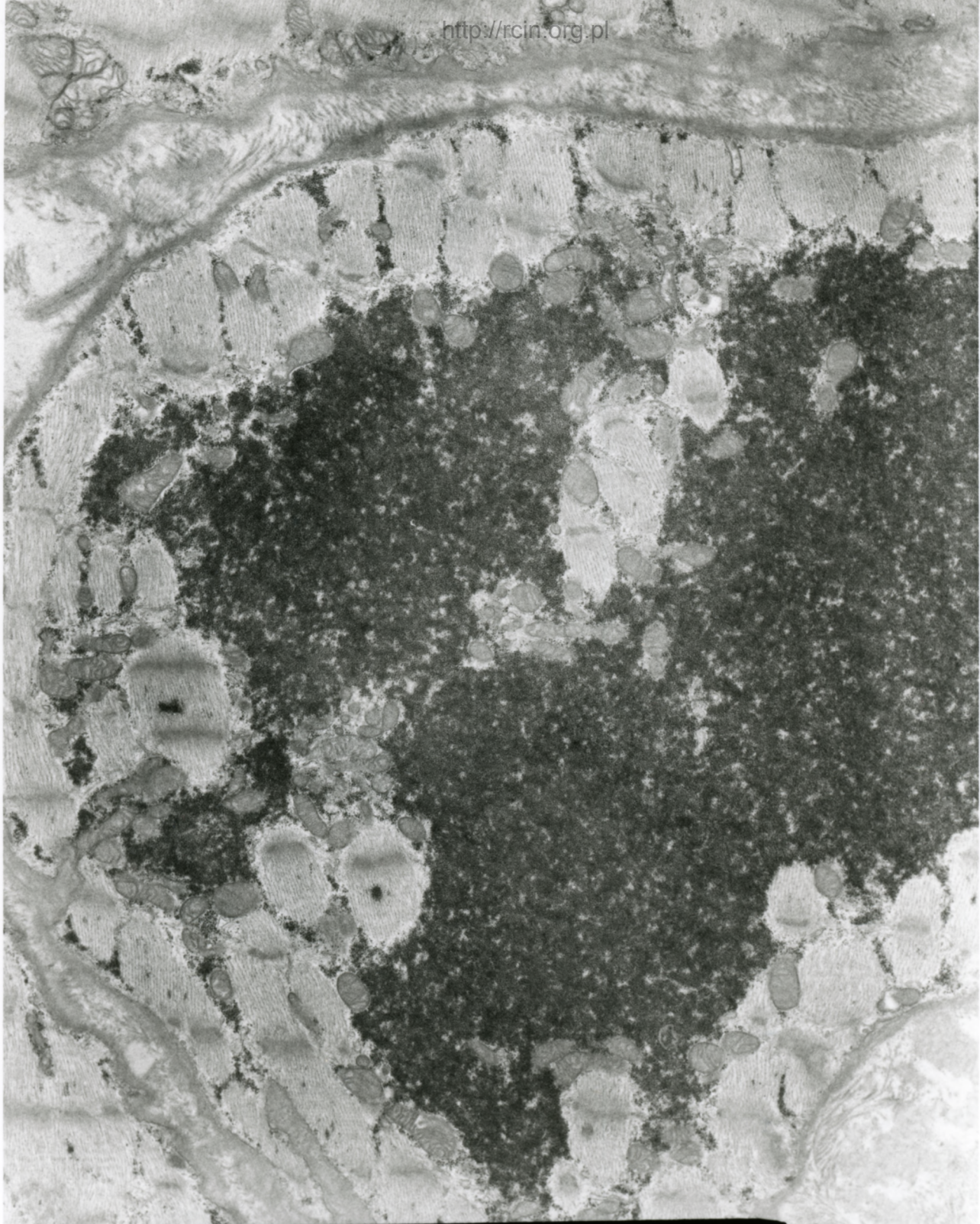


Fig.16





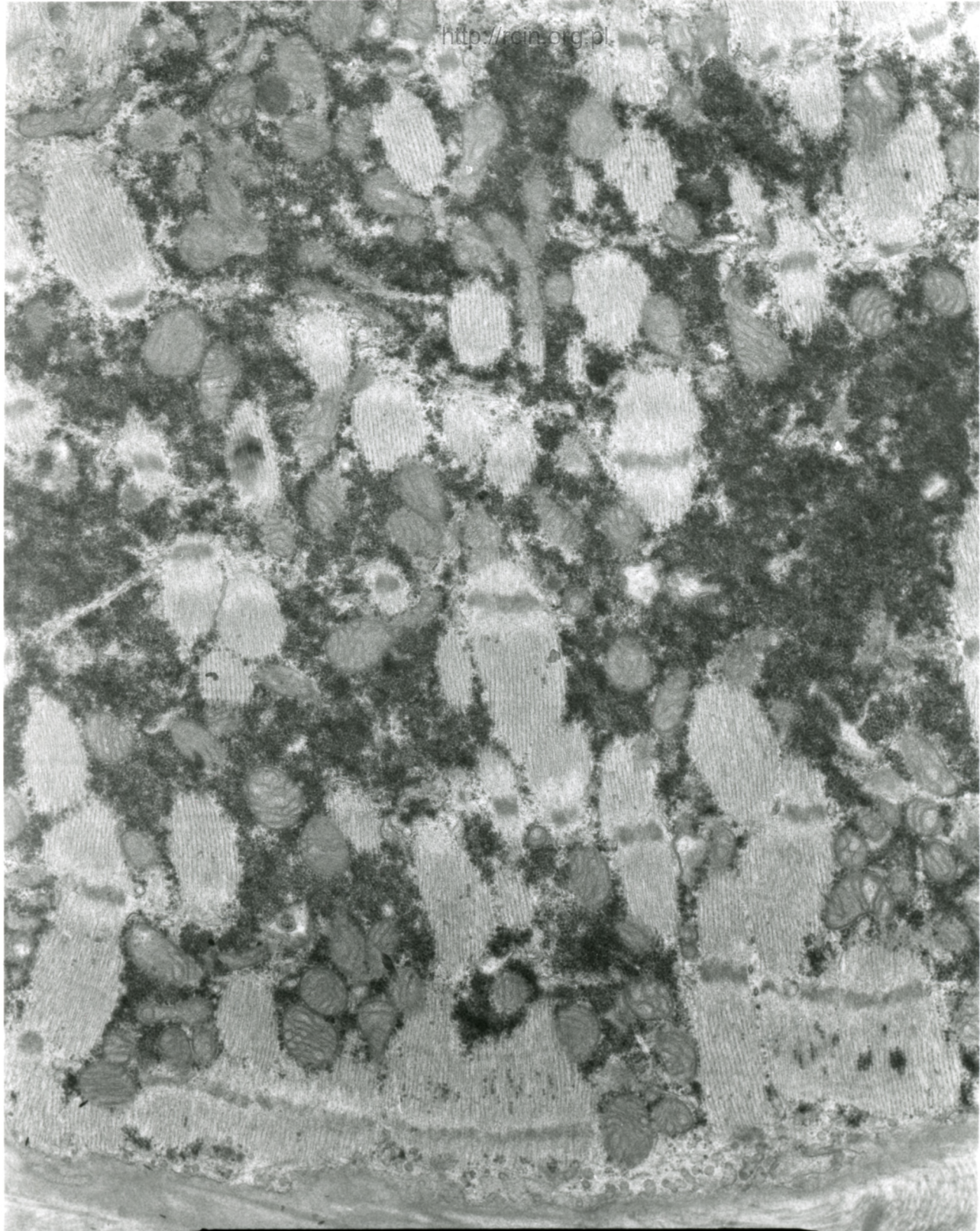
AF 53/012/SERCE  
121108 80.0KV X4000 2V

Fig.17

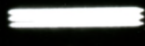


AF 55/912/SERCE  
121021 80.0KV X4000 2µm

Fig.18

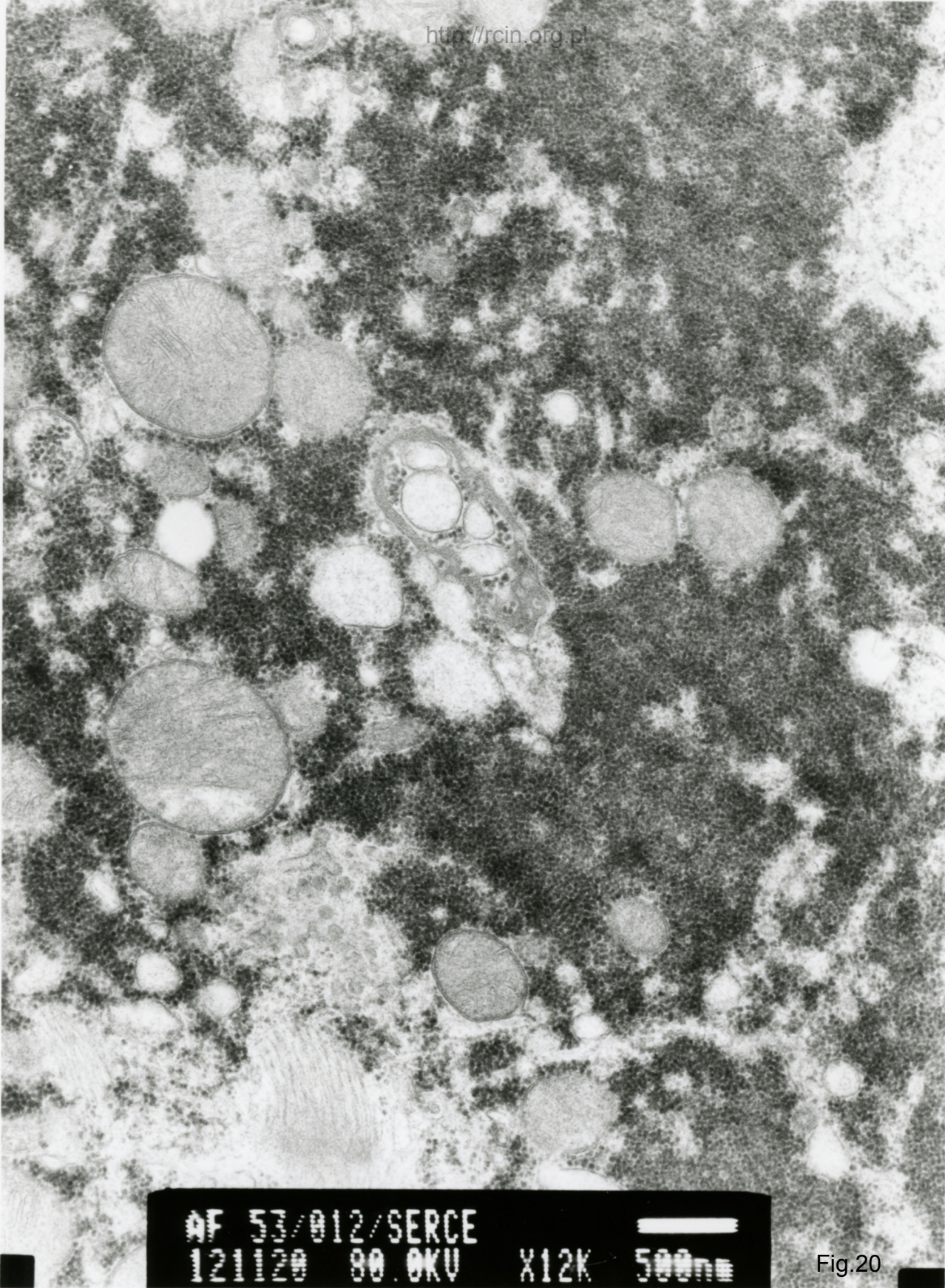


AF 53/012/SERCE  
121119 90.0KV X6000



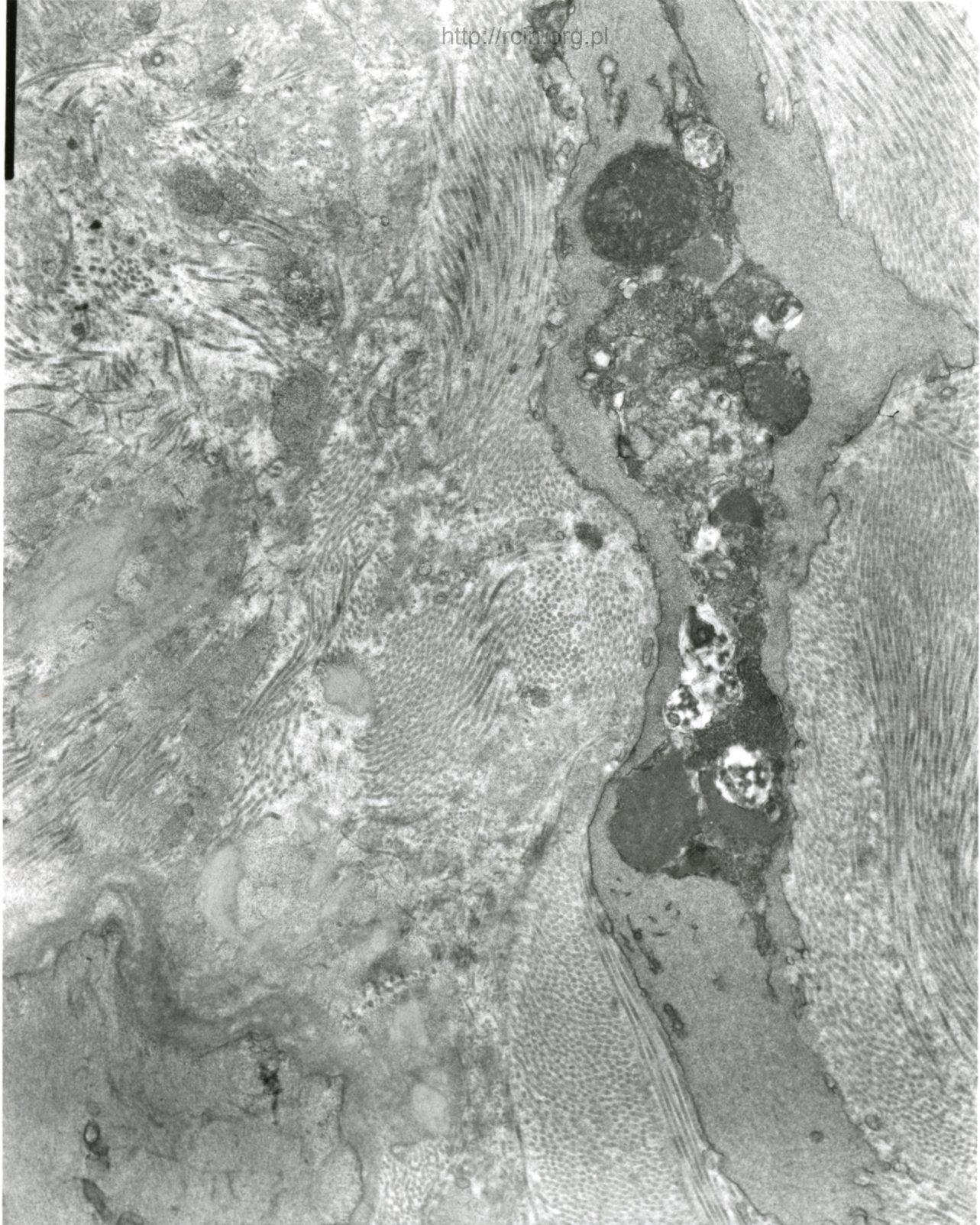
1µm

Fig.19



AF 53/012/SERCE  
121120 80.0KV X12K 500nm

Fig.20



AF 53/012/SERCE  
121122 80.0KV X5000



Fig.21

Analiza ultrastrukturalna wykazała, że w części bioptatu architektura kardiomiocytów nie odbiega od normy. Układ sarkomerów w tych obszarach był zachowany, jądra prawidłowe, niektóre o nieco pofałdowanej otoczce jądrowej (Fig. 1-5). Ogniskowo obserwowano jednak bardzo nasiloną autofagię (Fig. 6-8) oraz złogi lipofuscyny (Fig. 9). Niektóre mitochondria charakteryzowały się zmienionym, wydłużonym kształtem i nieprawidłowym przebiegiem grzebieni mitochondrialnych (Fig. 10-12). Obecne były także mitochondria większe niż normalne, o jasnej macierzy i nieprawidłowo ułożonych grzebieniach (Fig.13-15). Obserwowano znaczne depozyty ziaren glikogenu (Fig. 16-20). W przestrzeni zewnątrzkomórkowej występowała obfita tkanka łączna (Fig 21).

Electronmicroscopy analysis revealed almost unchanged cardiomyocytes morphology in some parts of the biopsy. The arrangement of sarcomeres in these areas was preserved, most of the nuclei were normal but some of them were characterized by indentations in the nuclear envelope (Figs. 1-5). However, focally very intense autophagy (Figs. 6-8) and lipofuscin deposits (Fig. 9) were observed. Some mitochondria were characterized by altered, elongated shape and abnormal course of mitochondrial cristae (Figs. 10-12). Also mitochondria larger than normal, with bright matrix and altered arrangement of mitochondrial cristae were present (Figs.13-15). Significant deposits of glycogen granules were observed (Fig. 16-20). There was abundant connective tissue in the extracellular space (Fig 21).