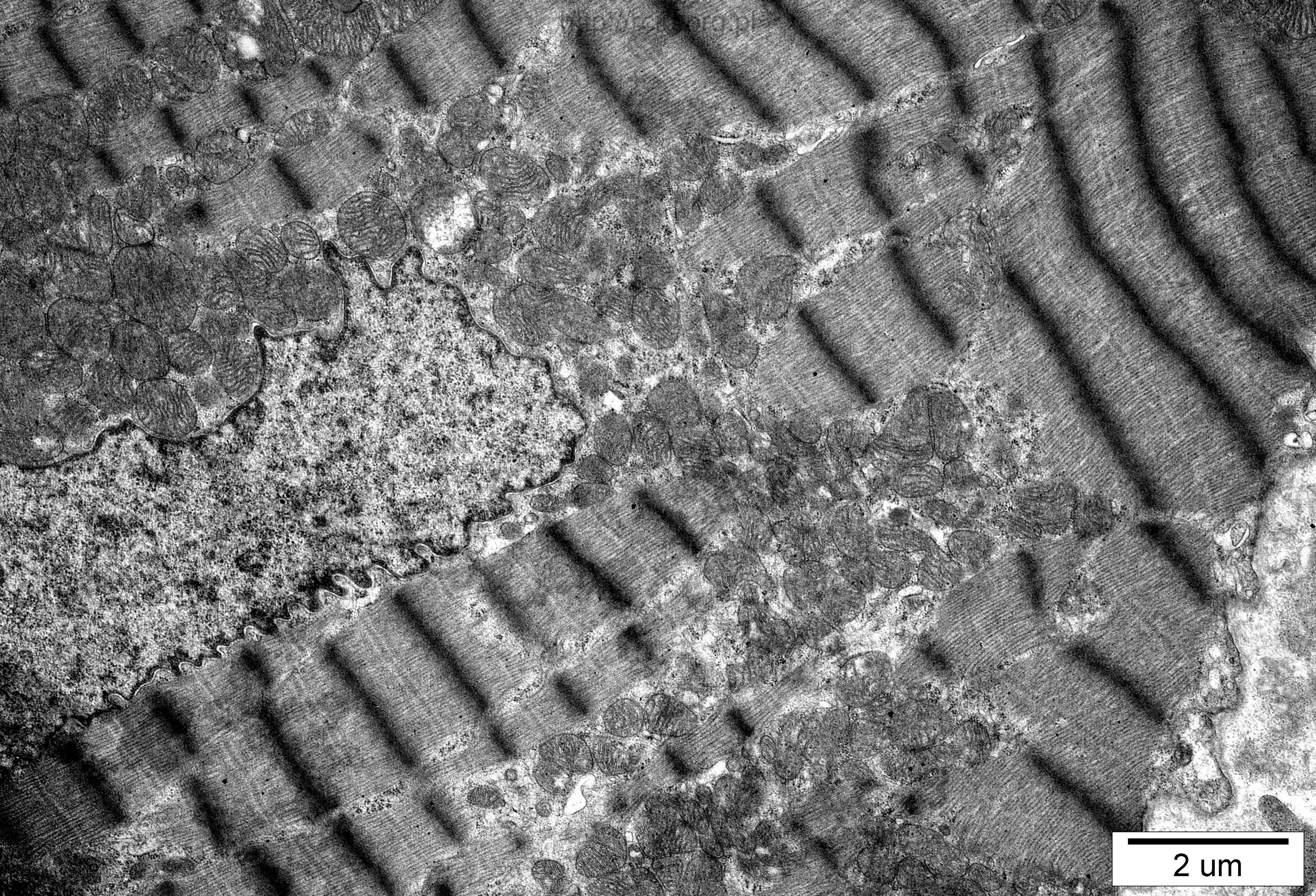
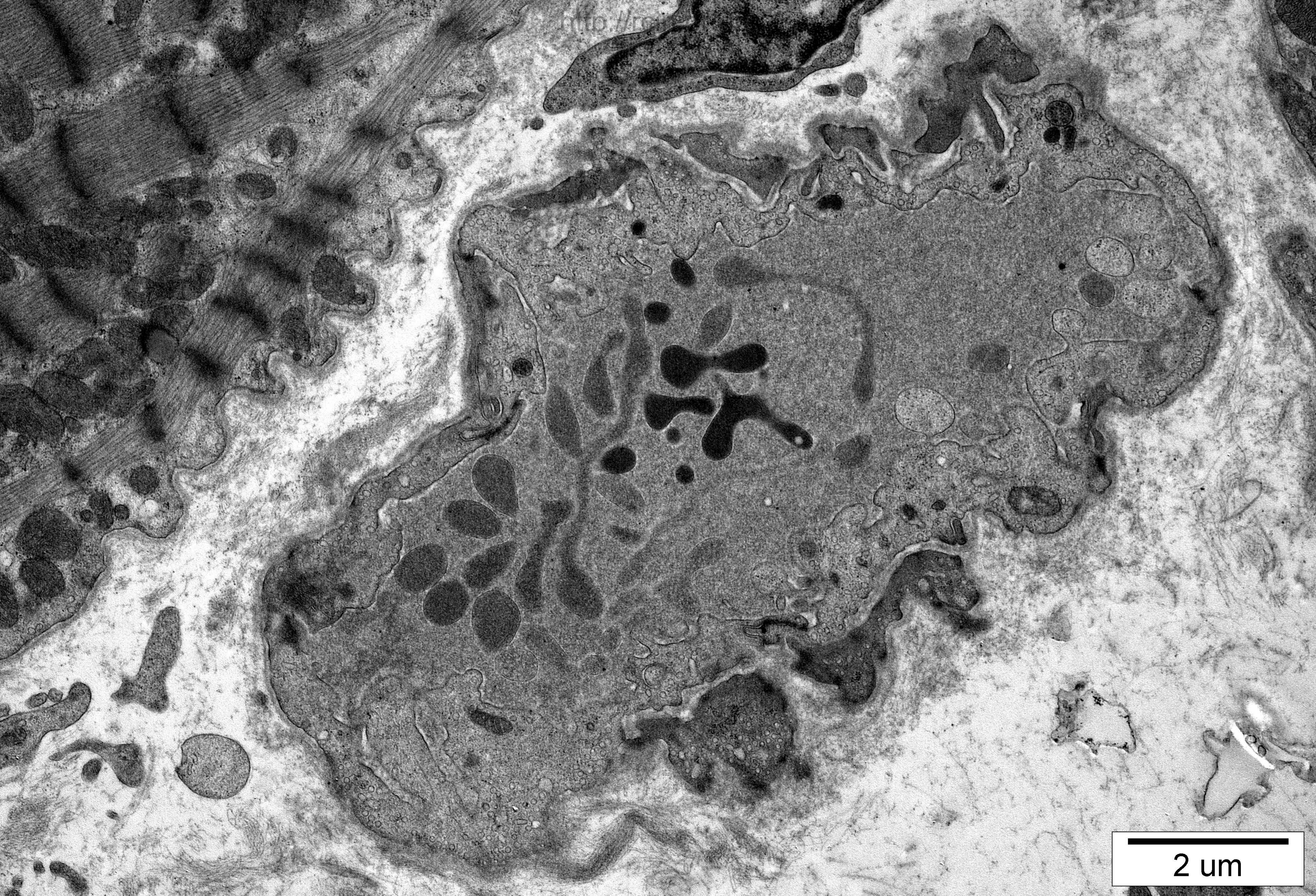


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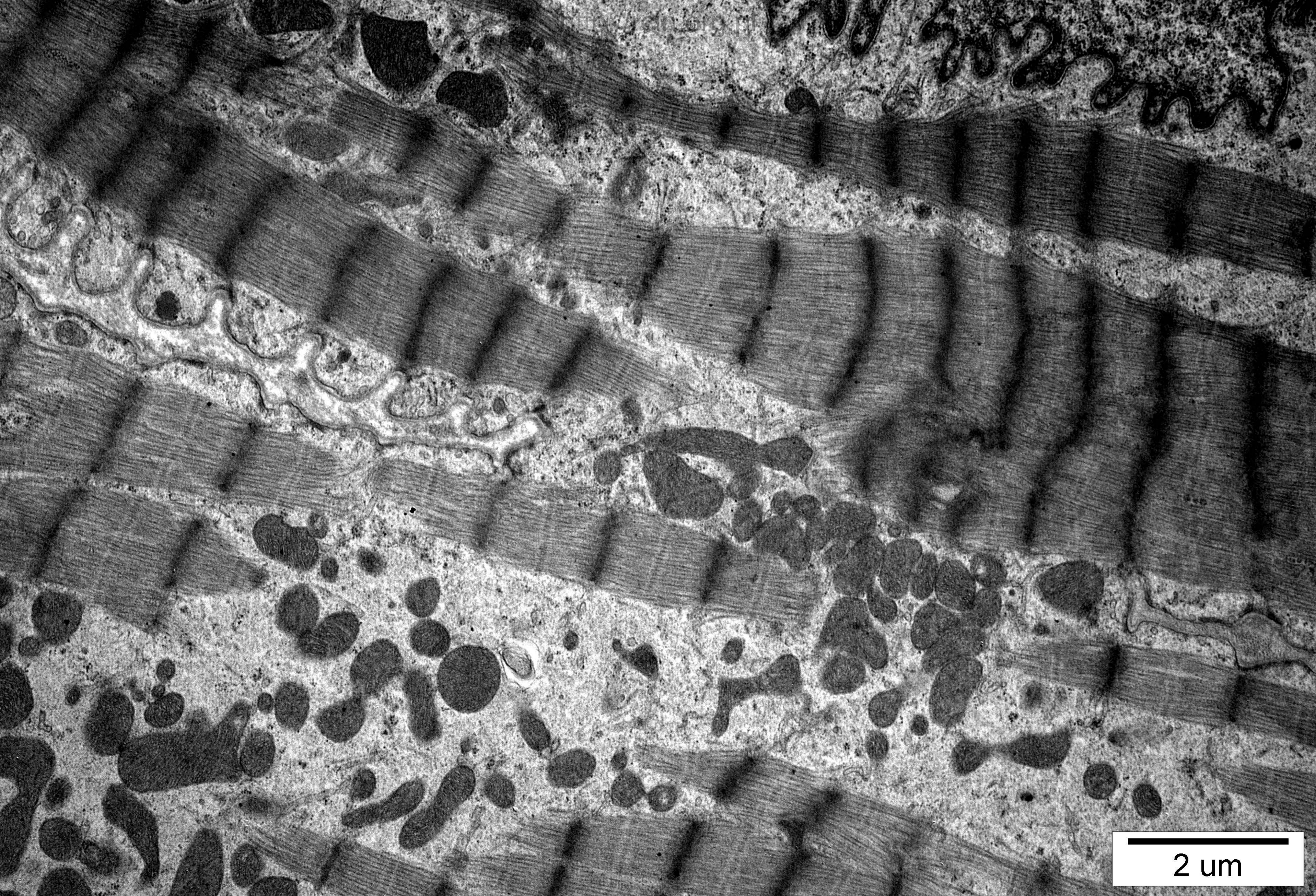


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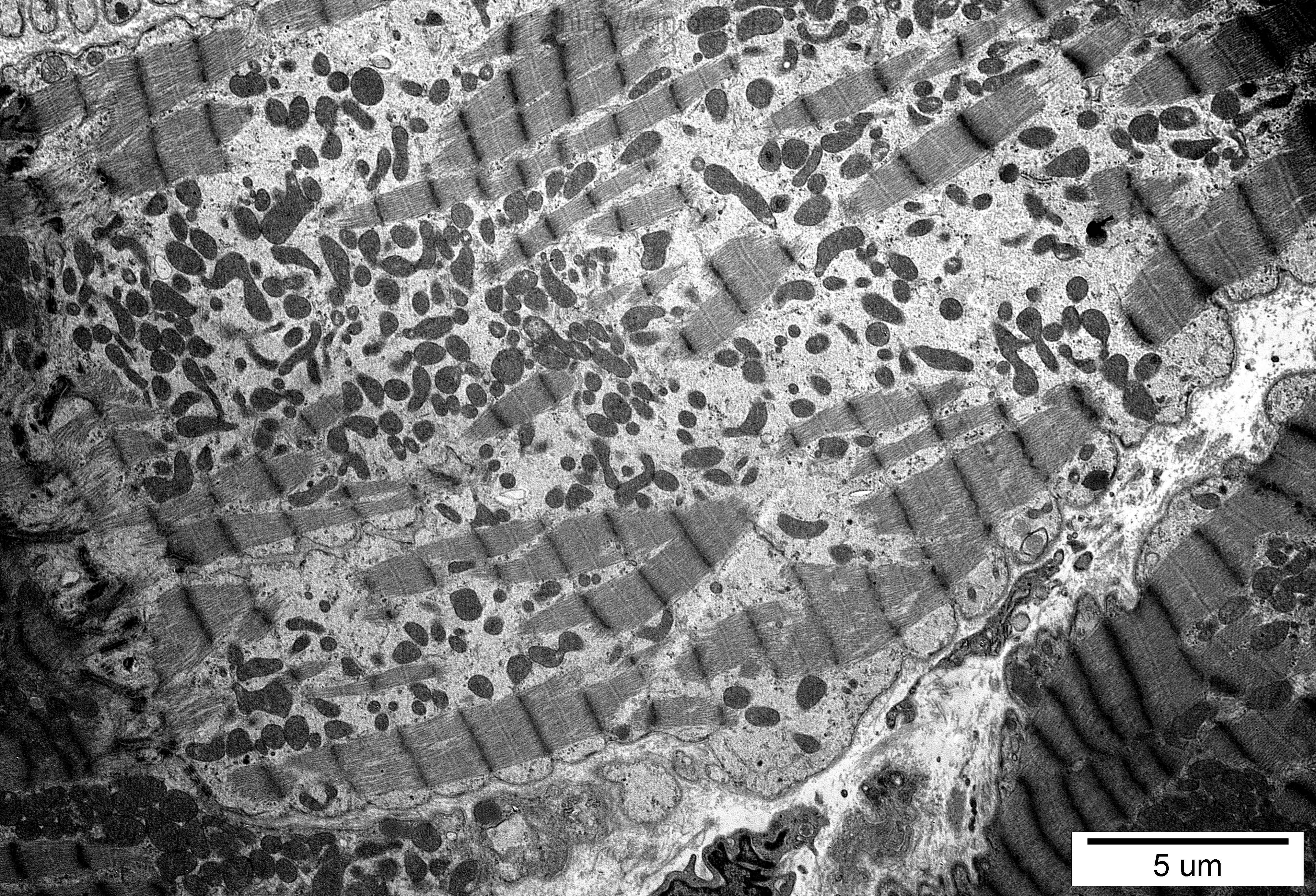
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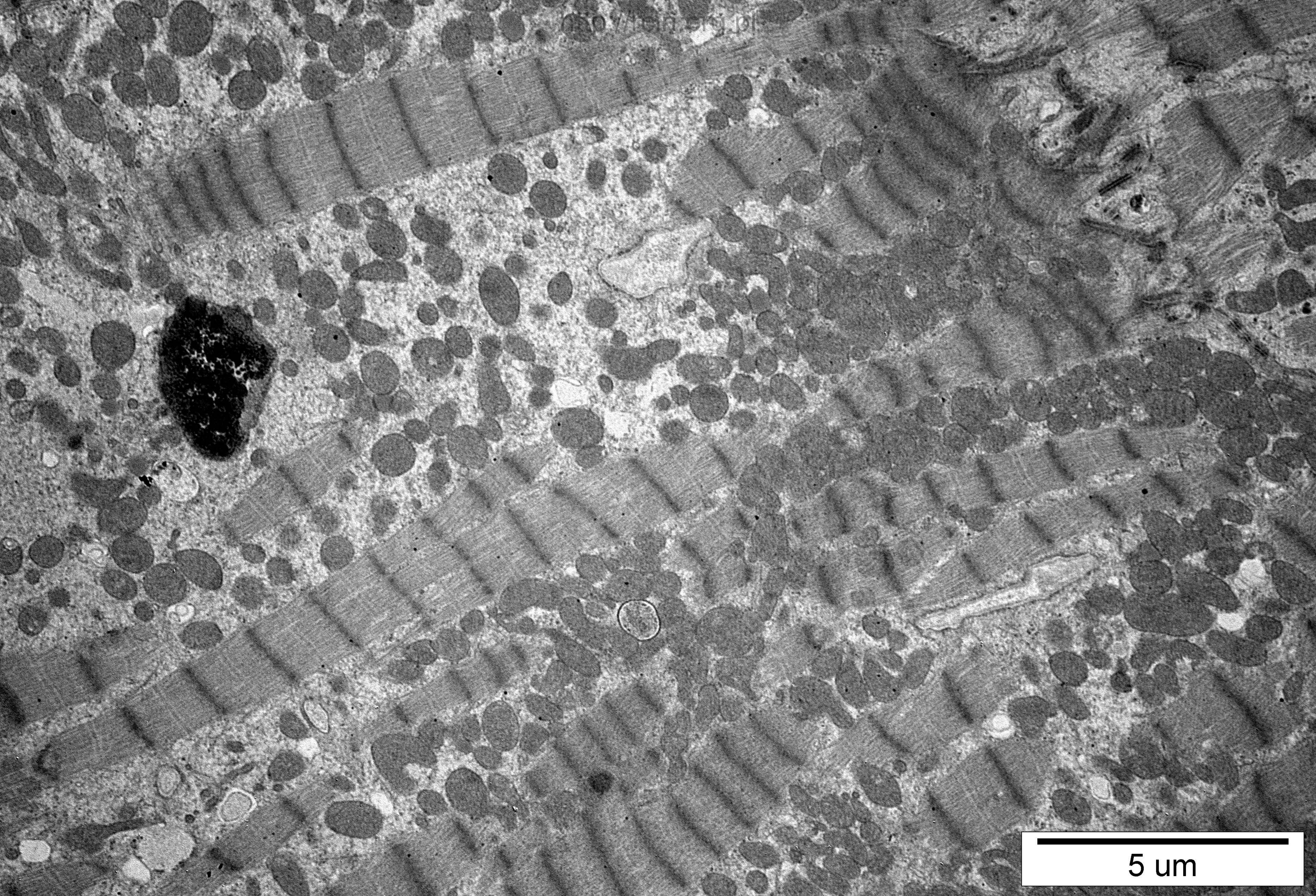
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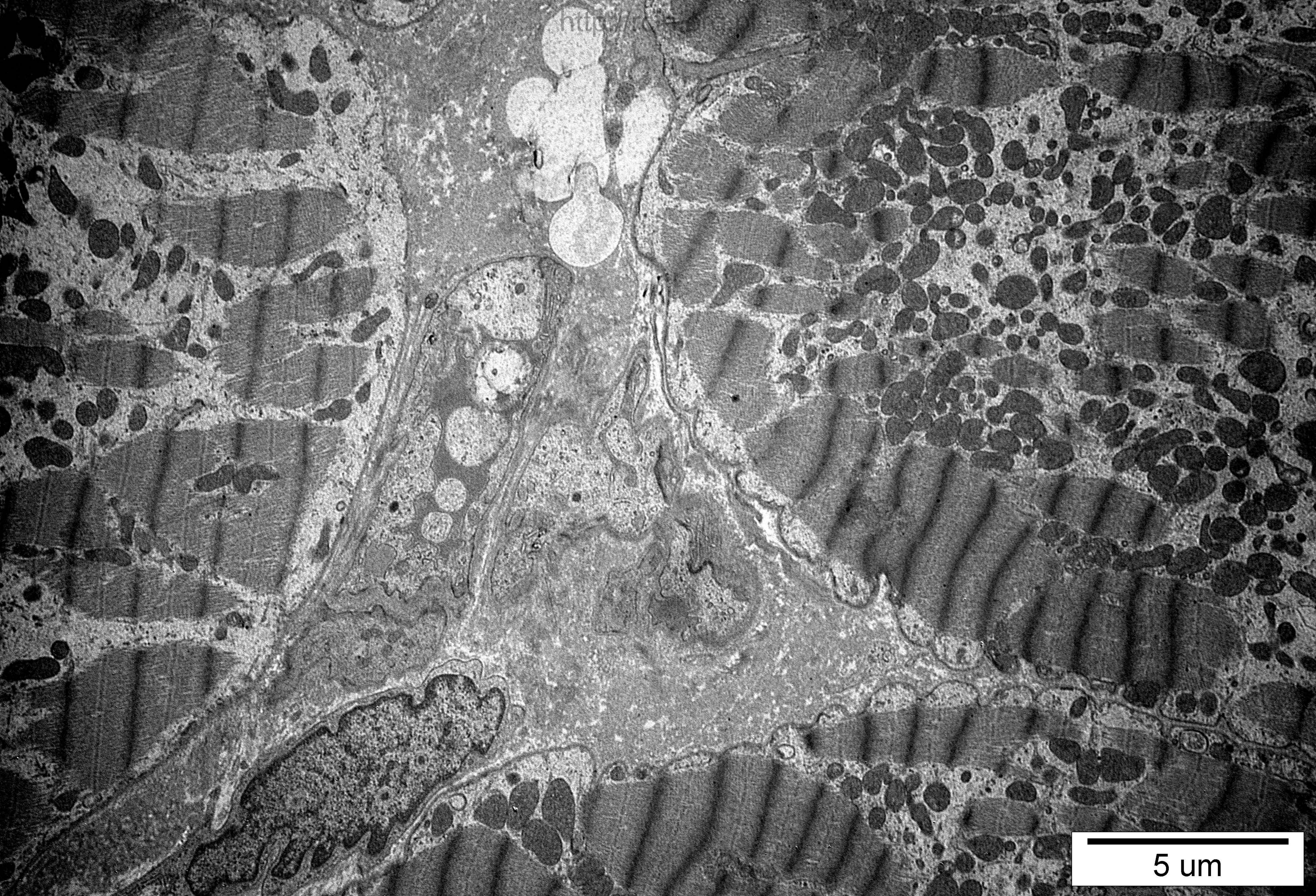
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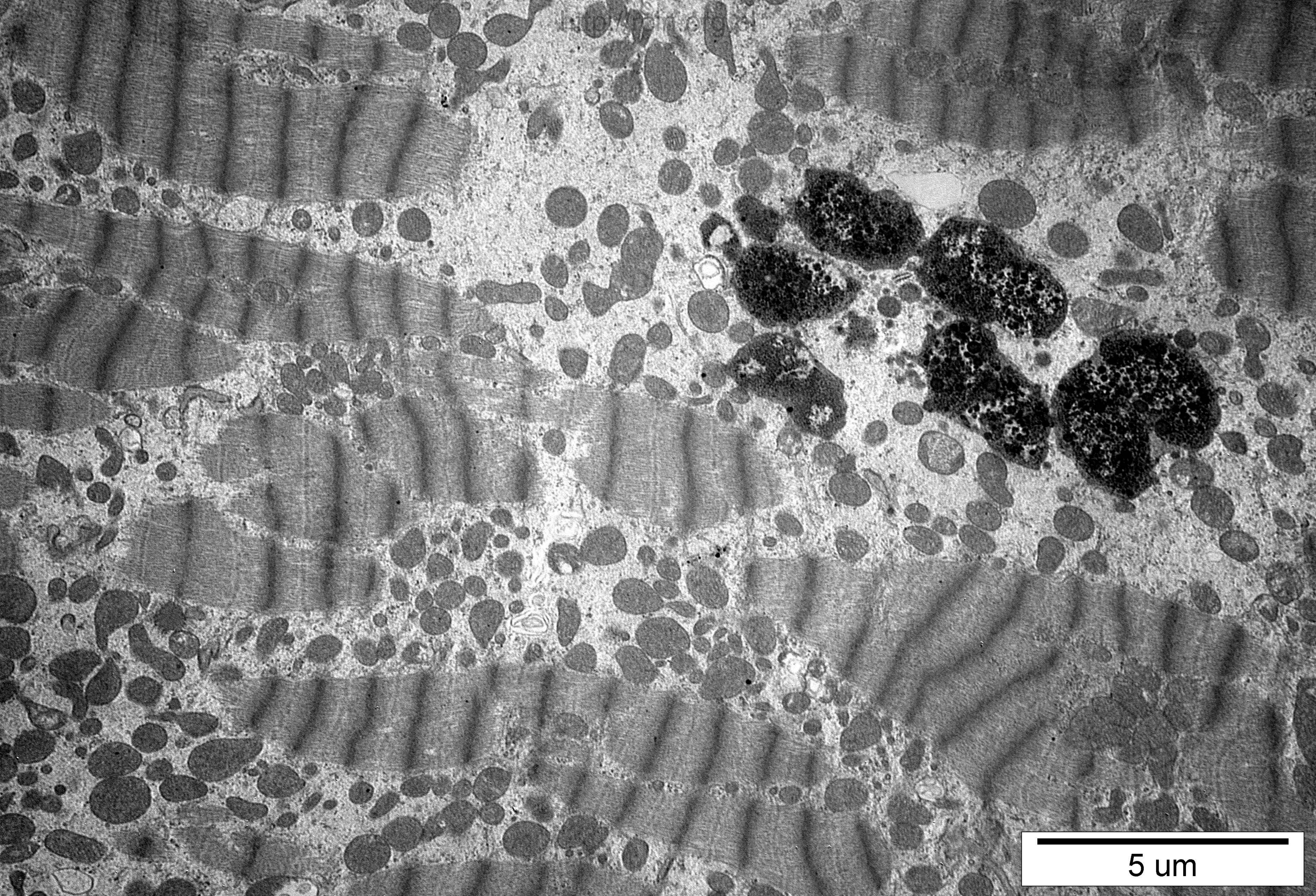
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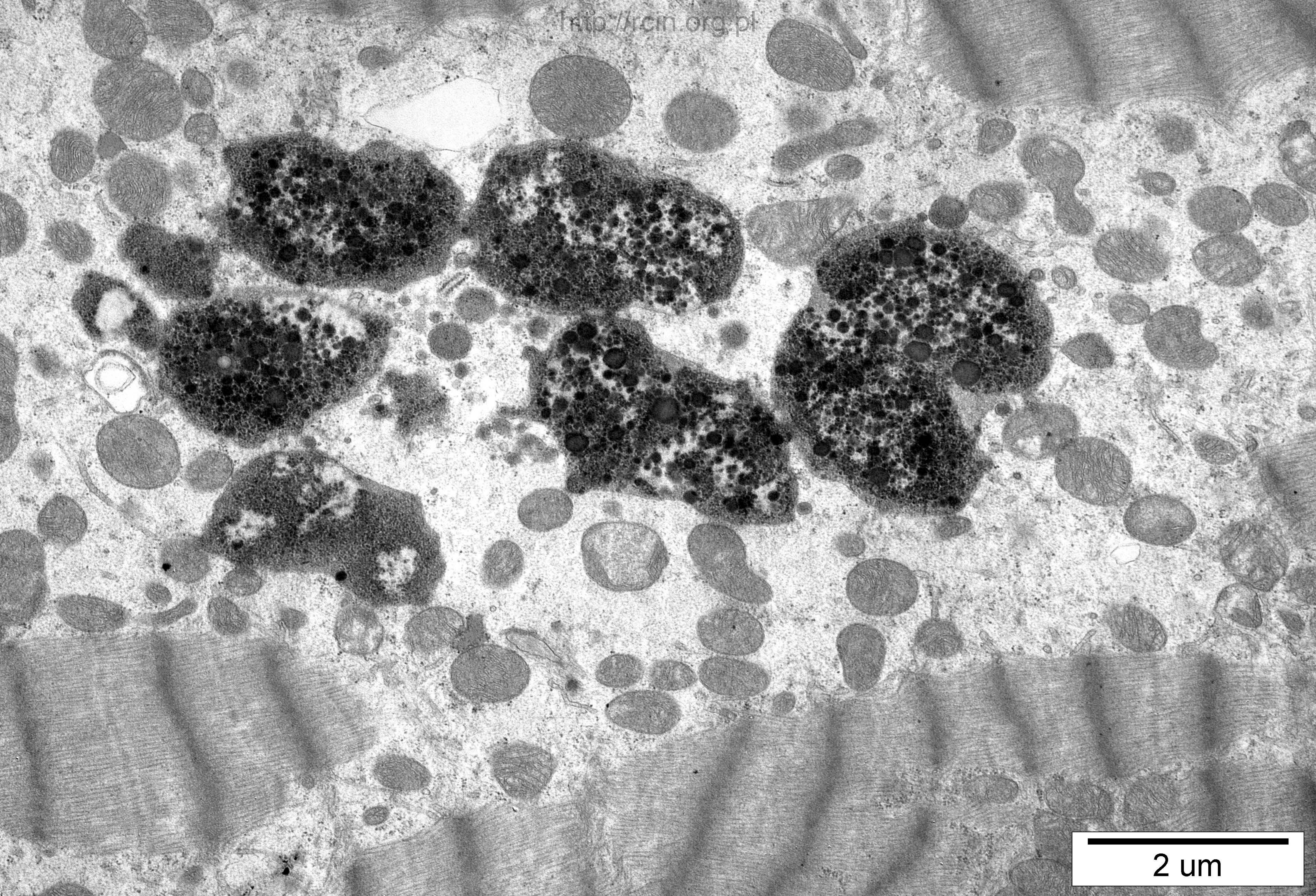
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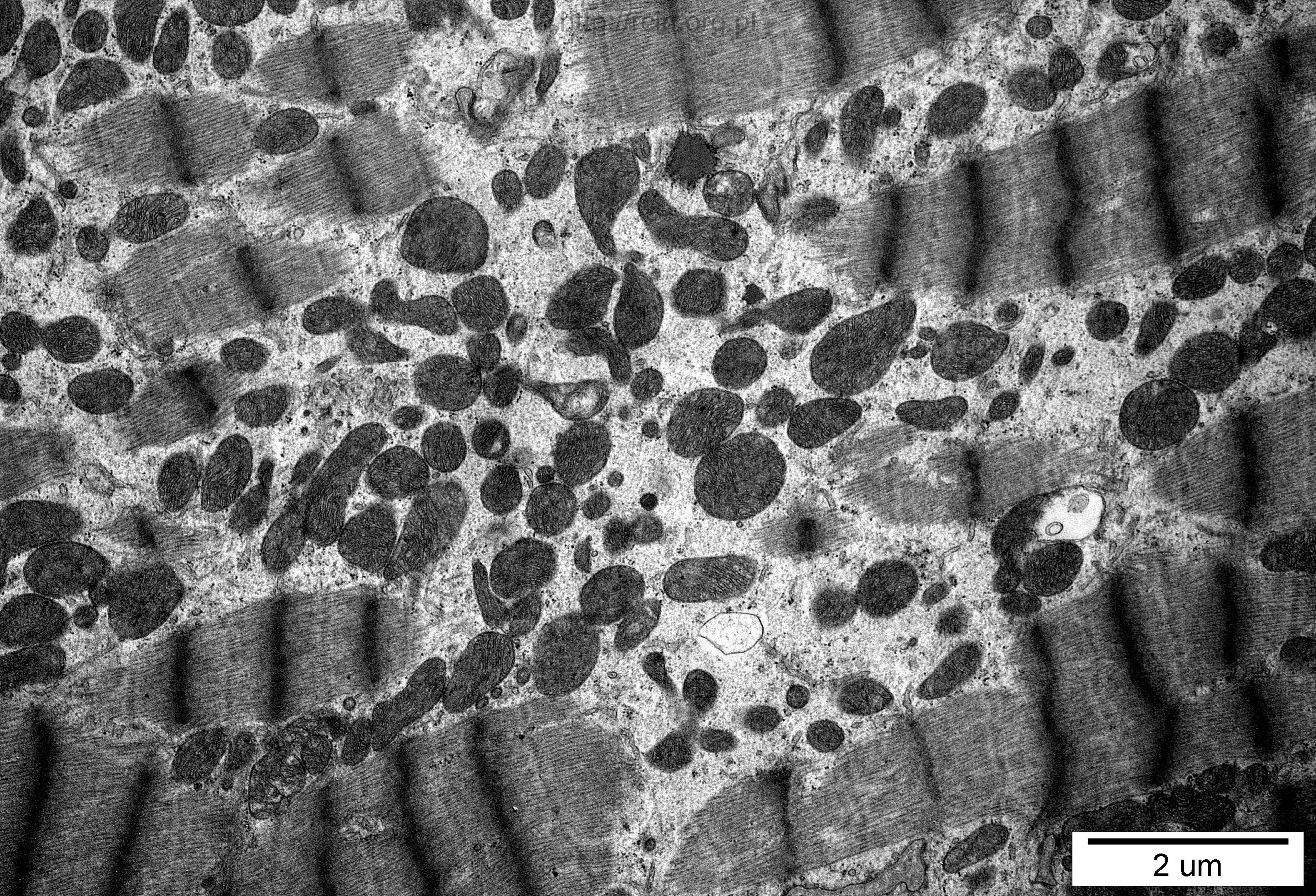
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5 um



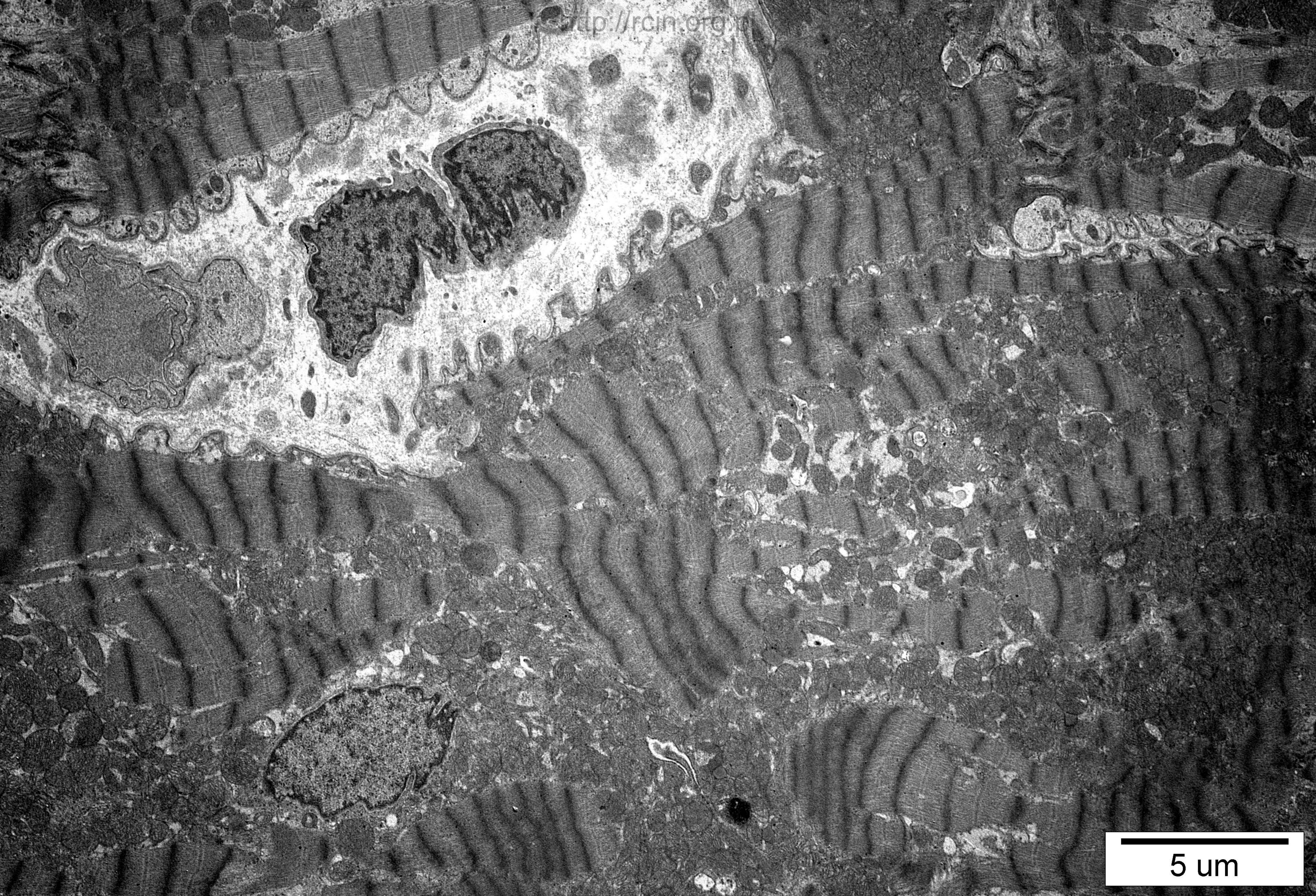
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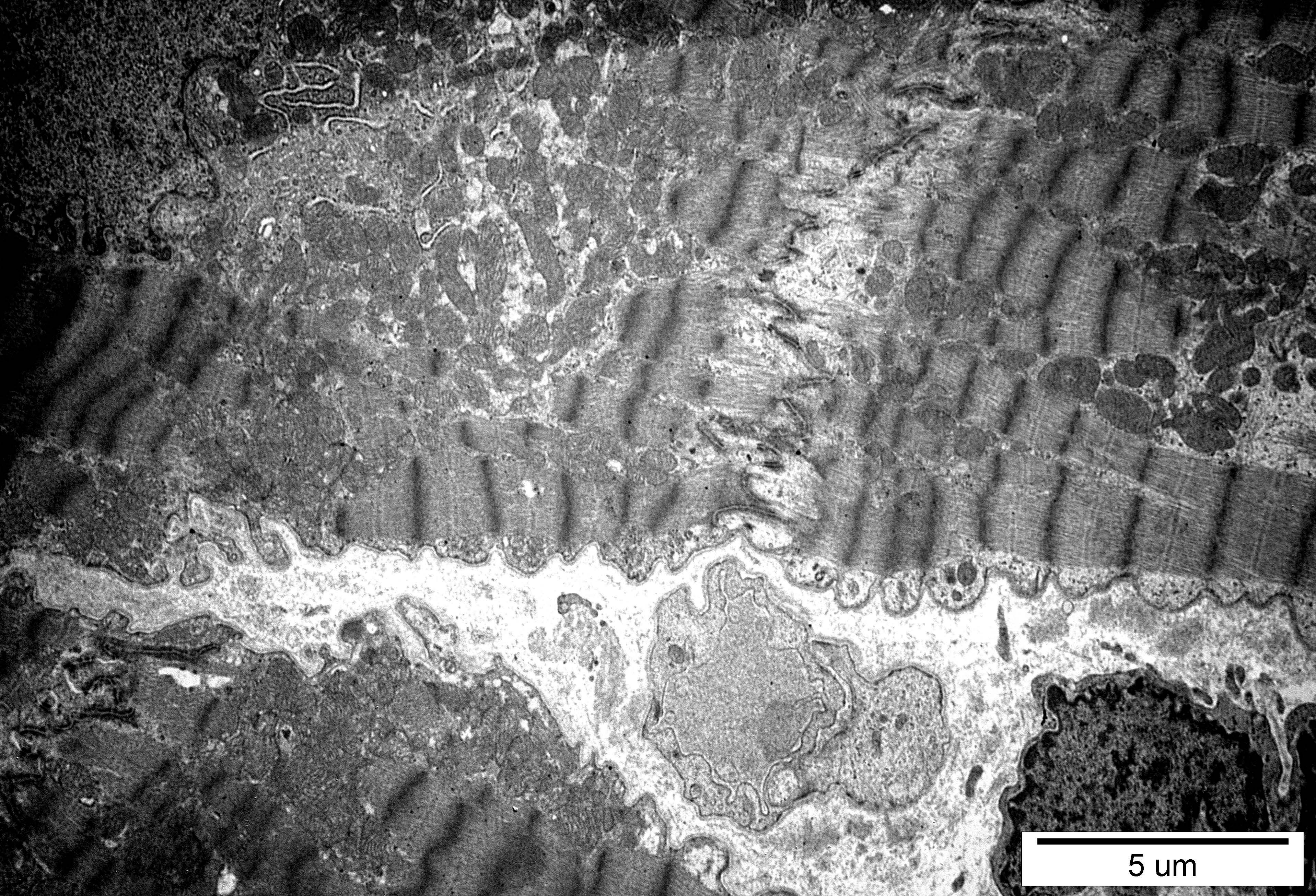
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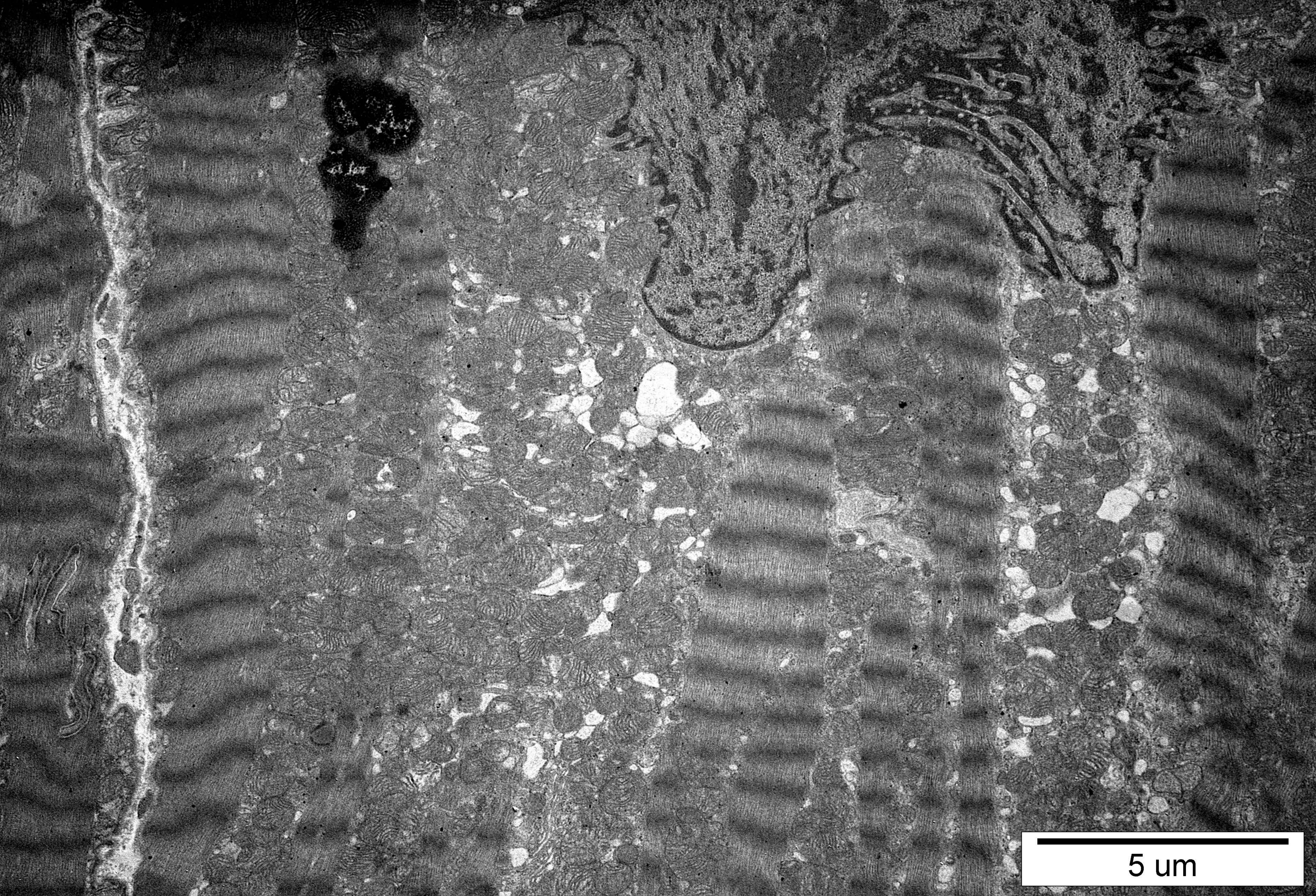
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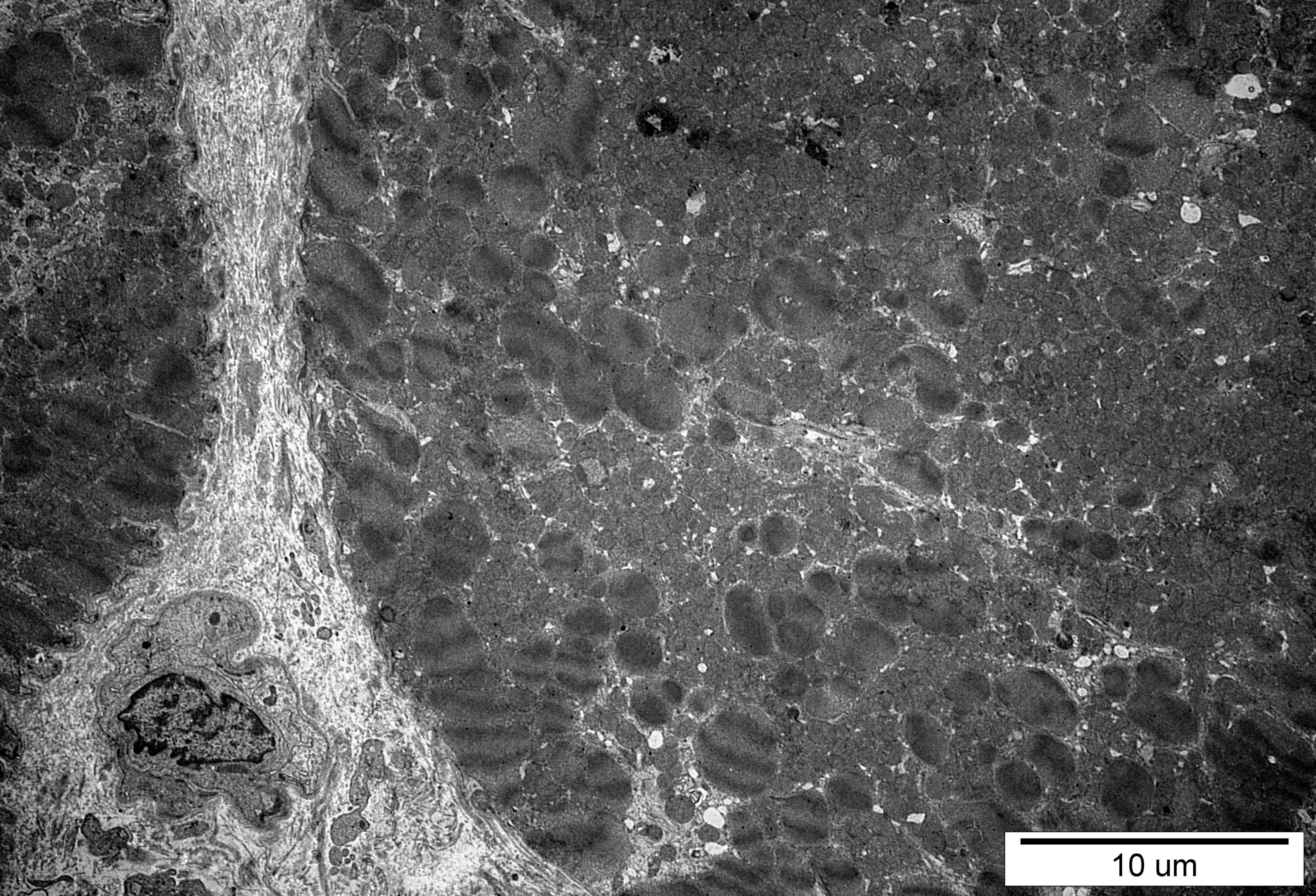
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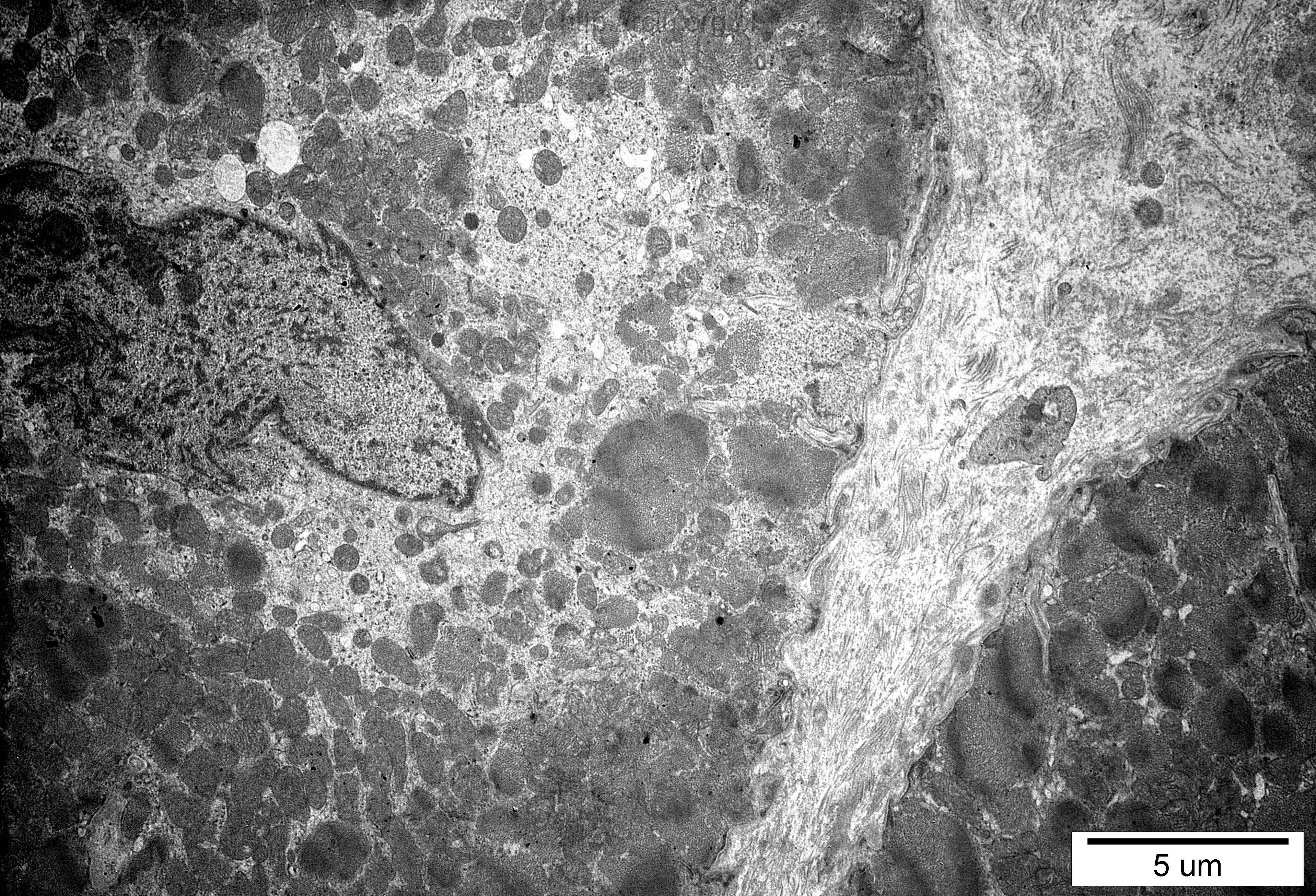
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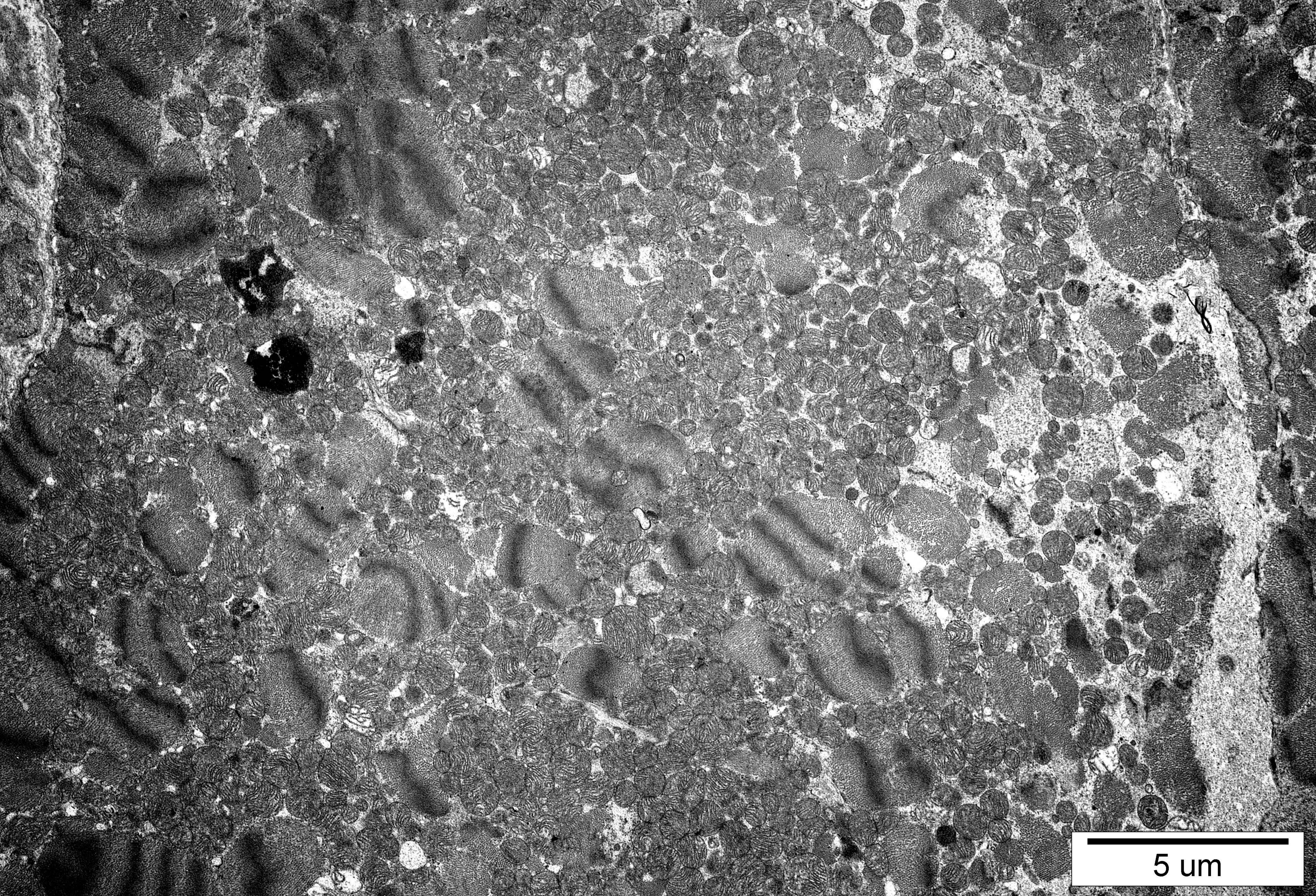
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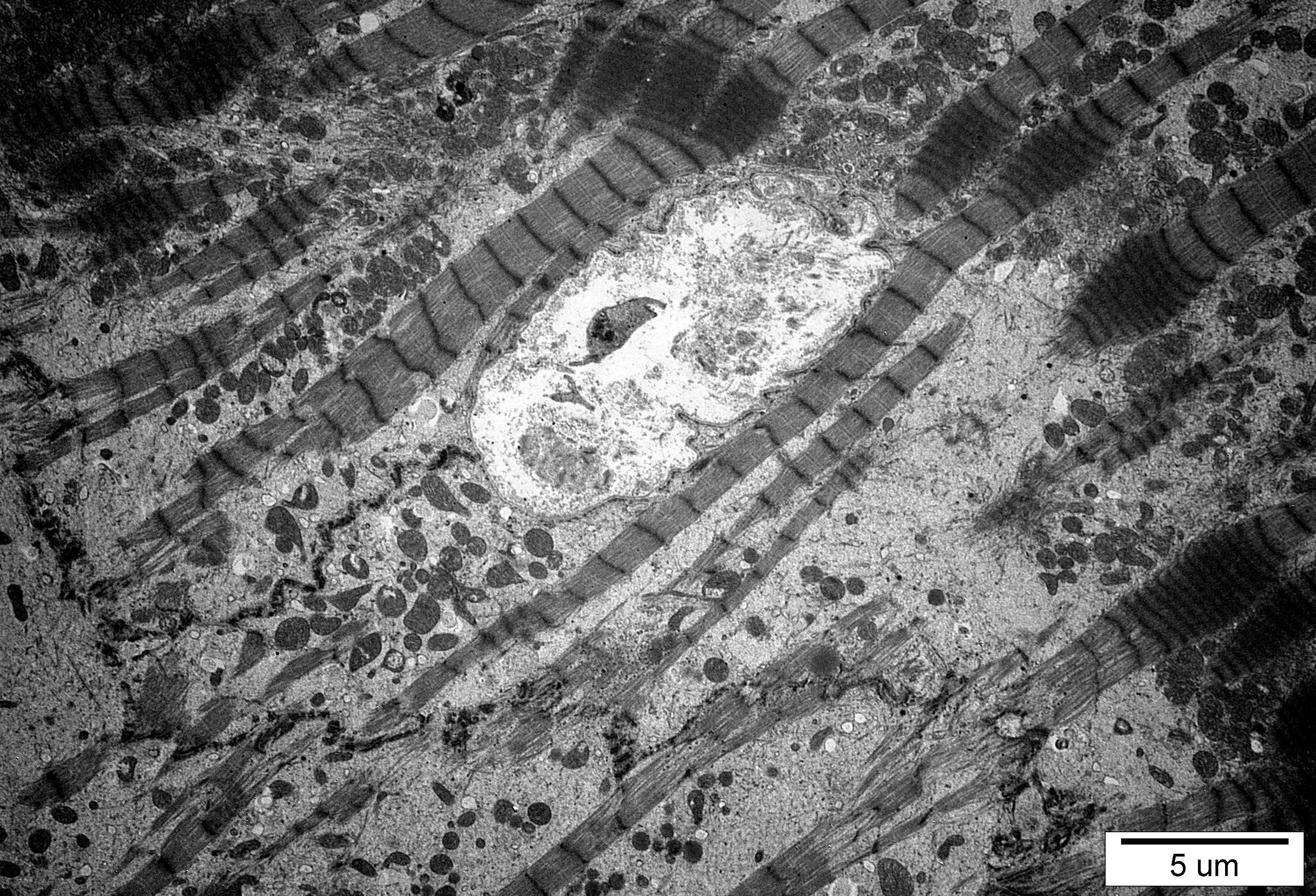
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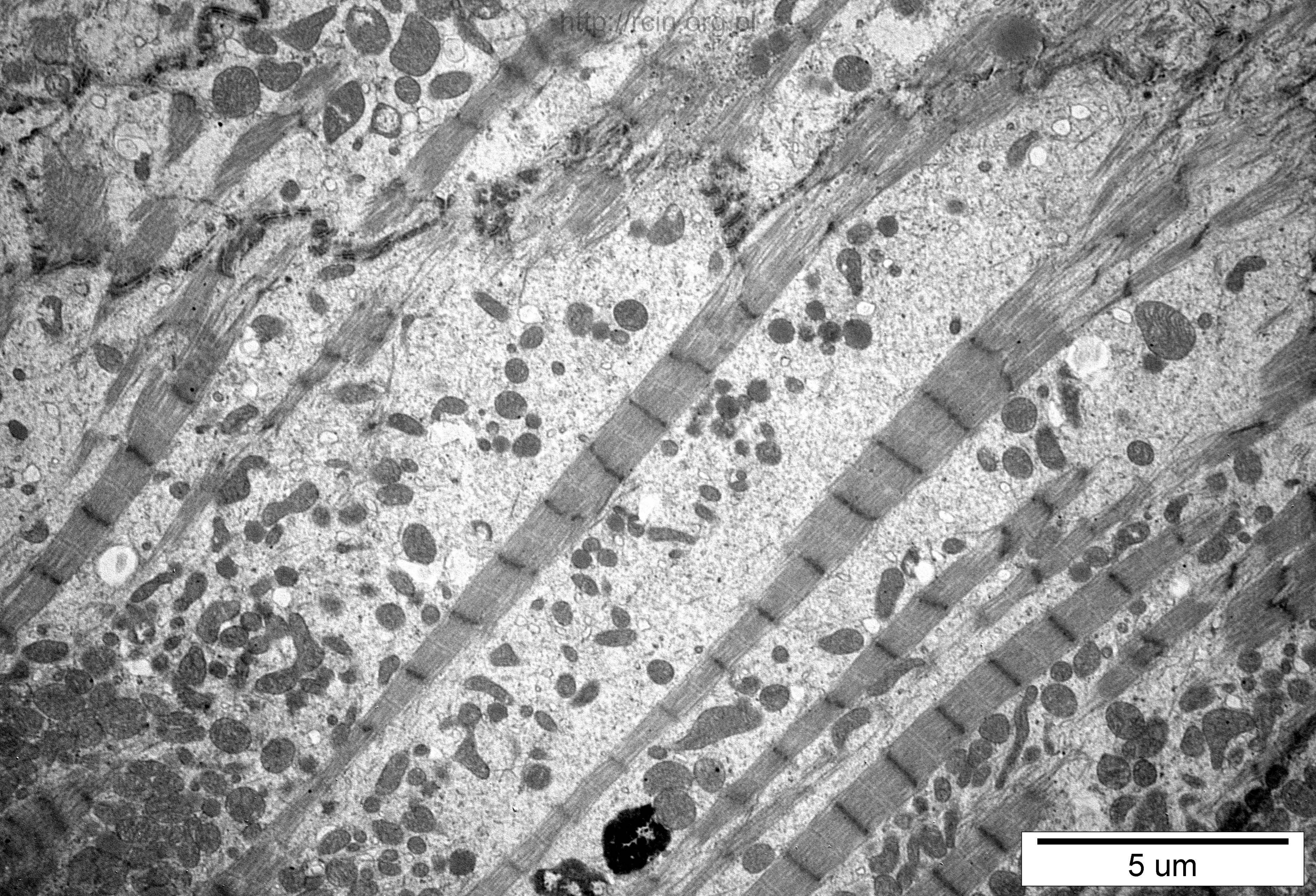
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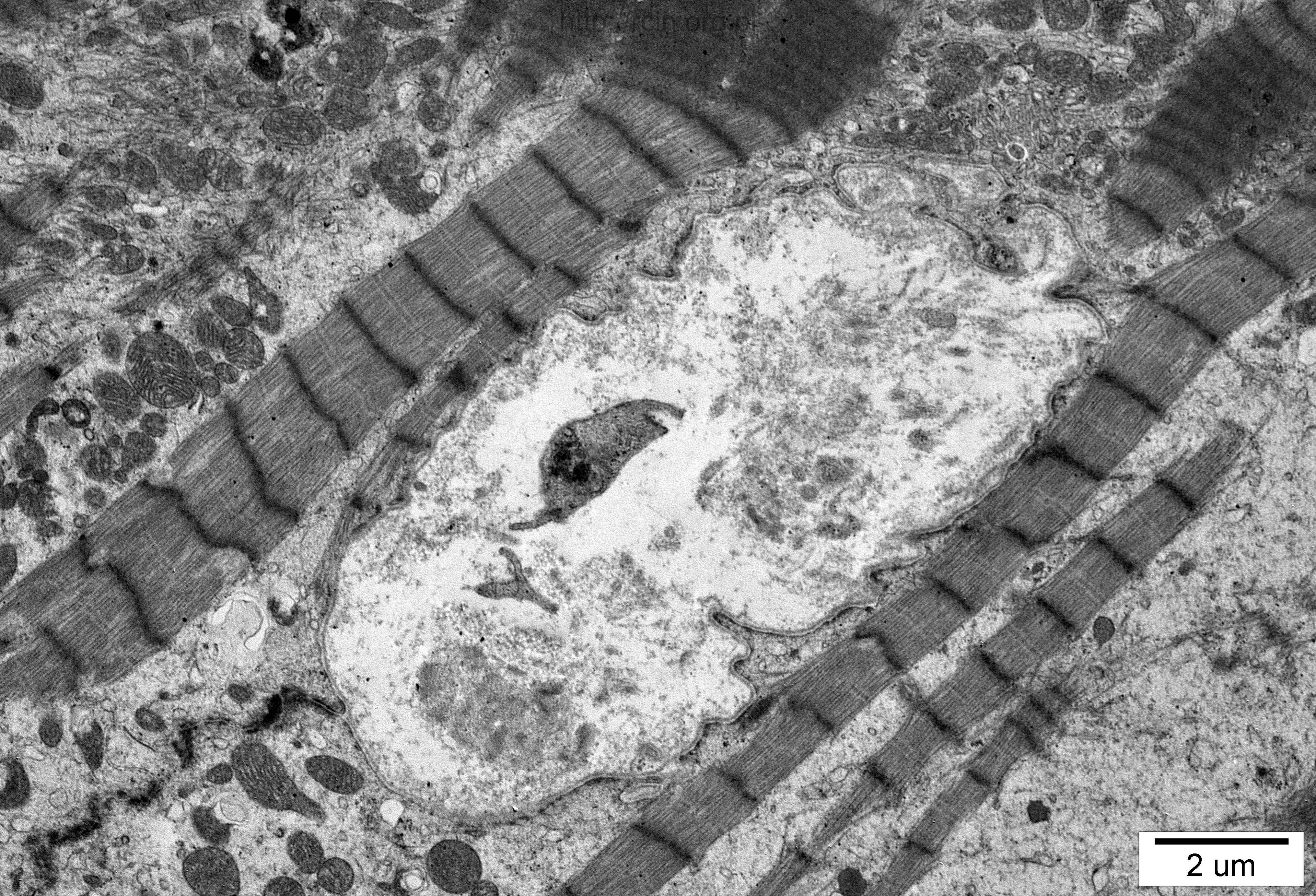
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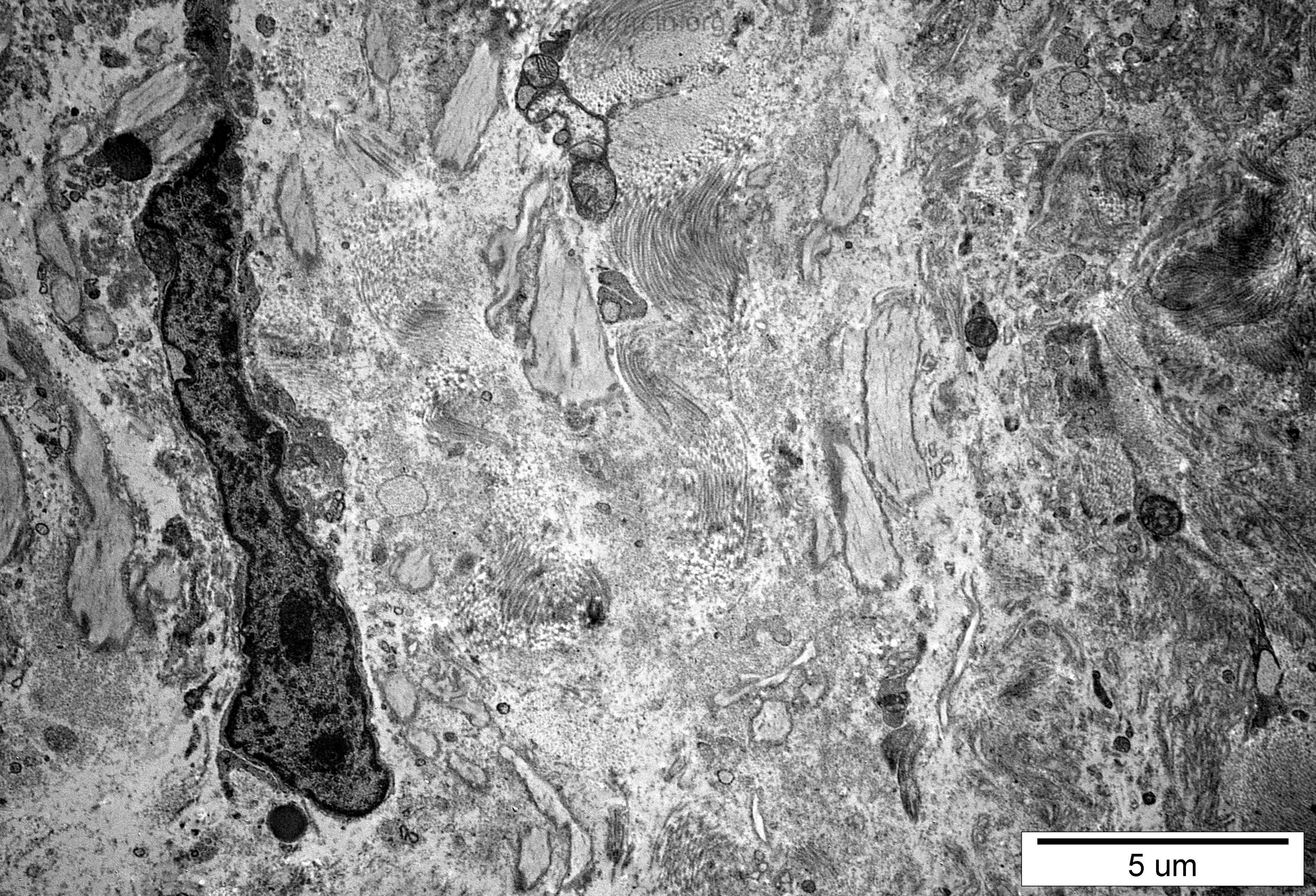
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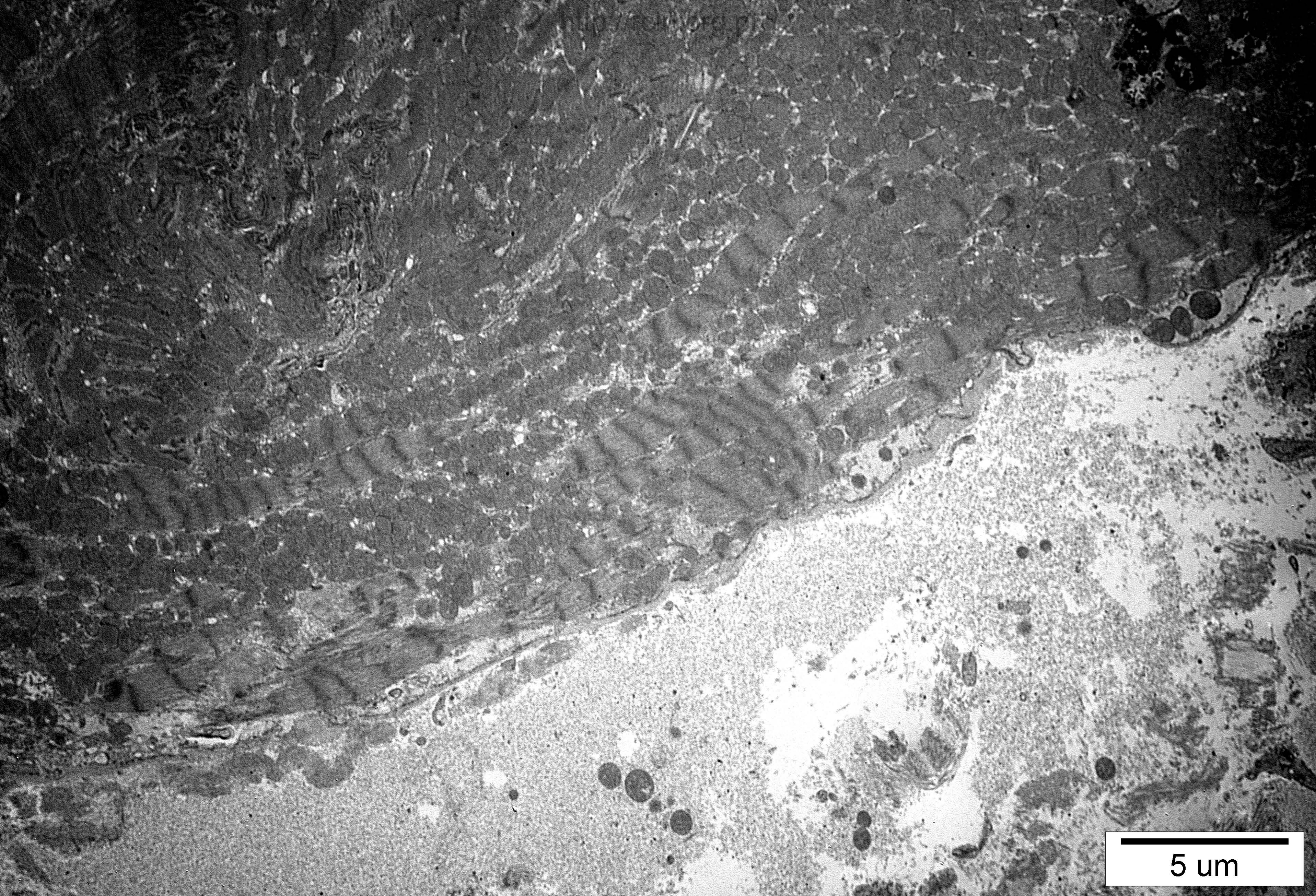
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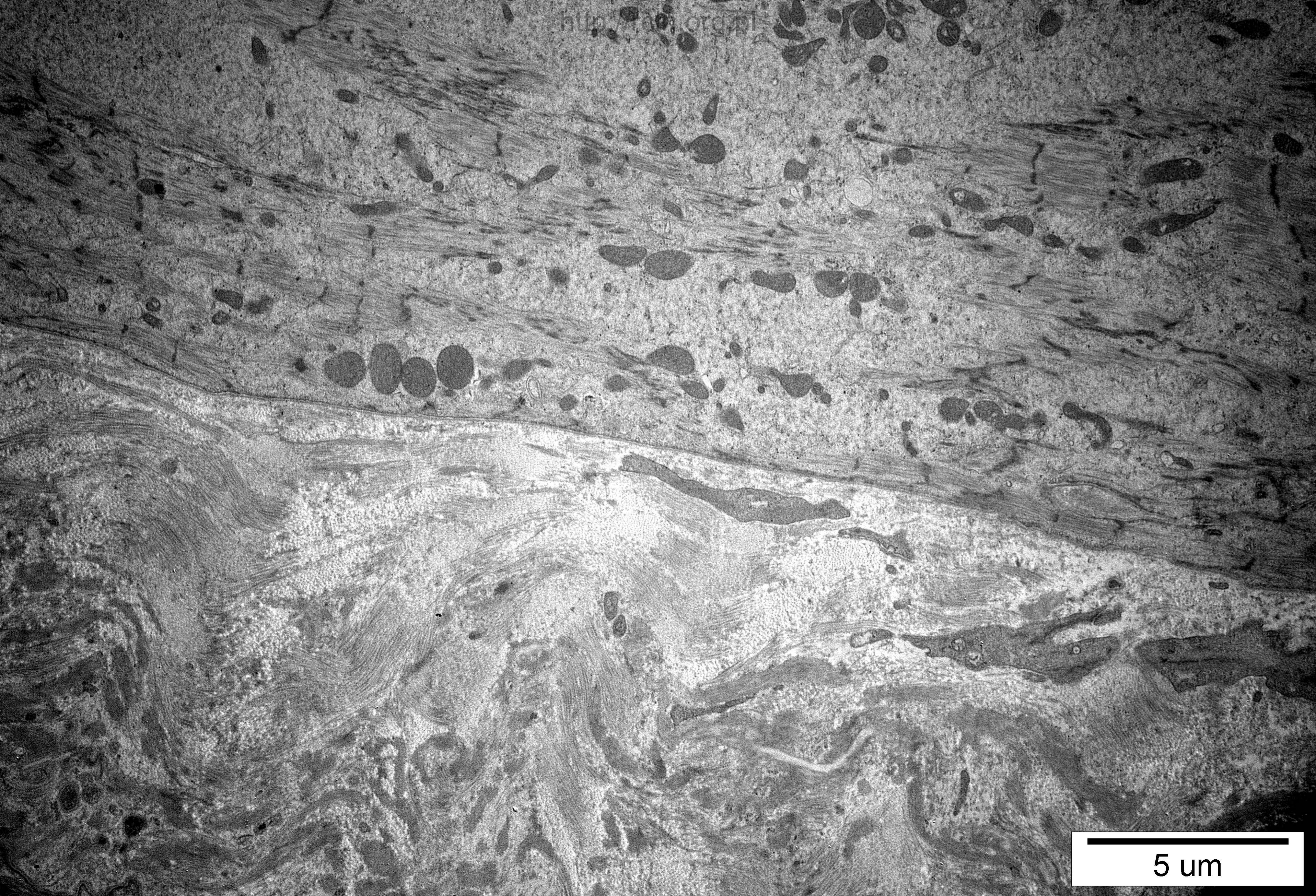
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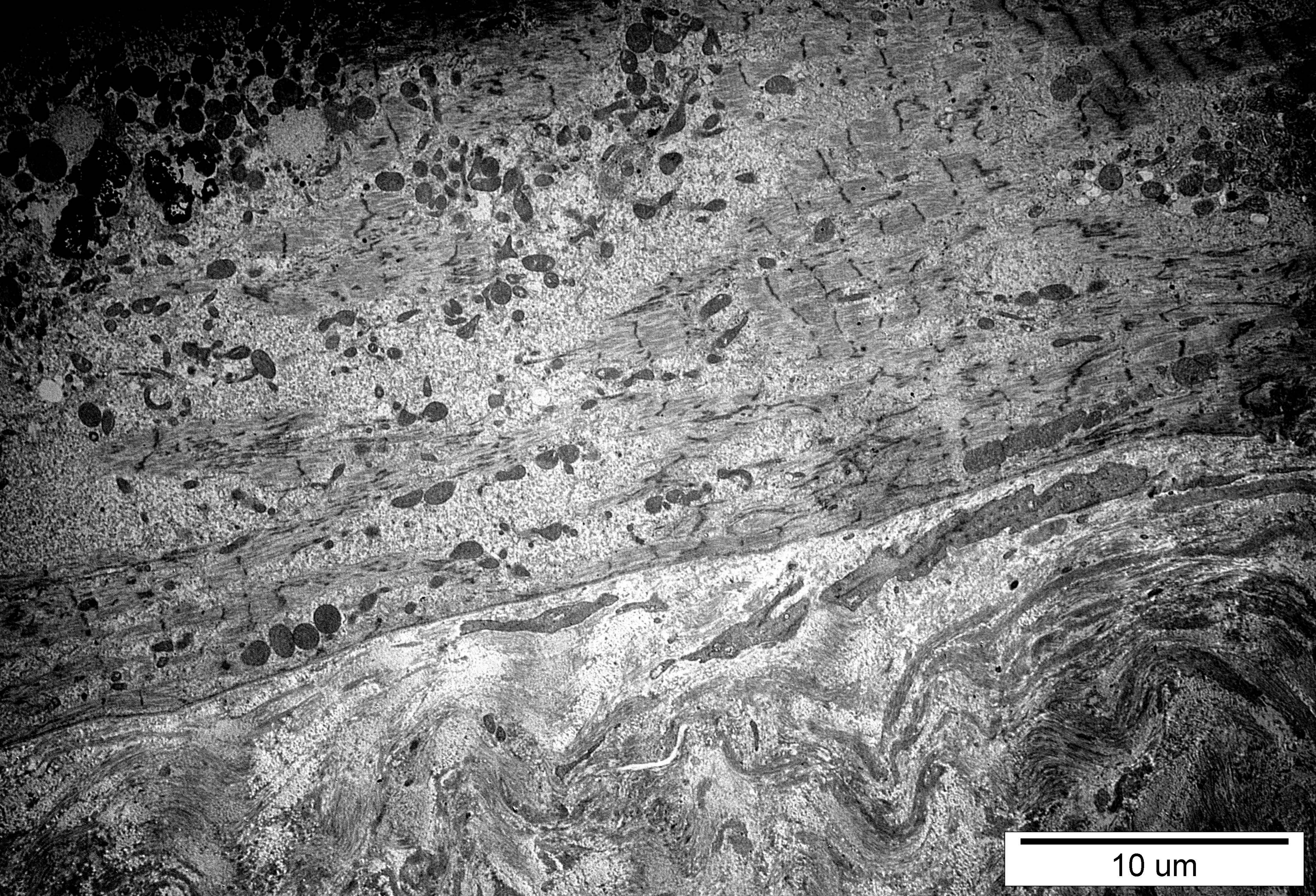
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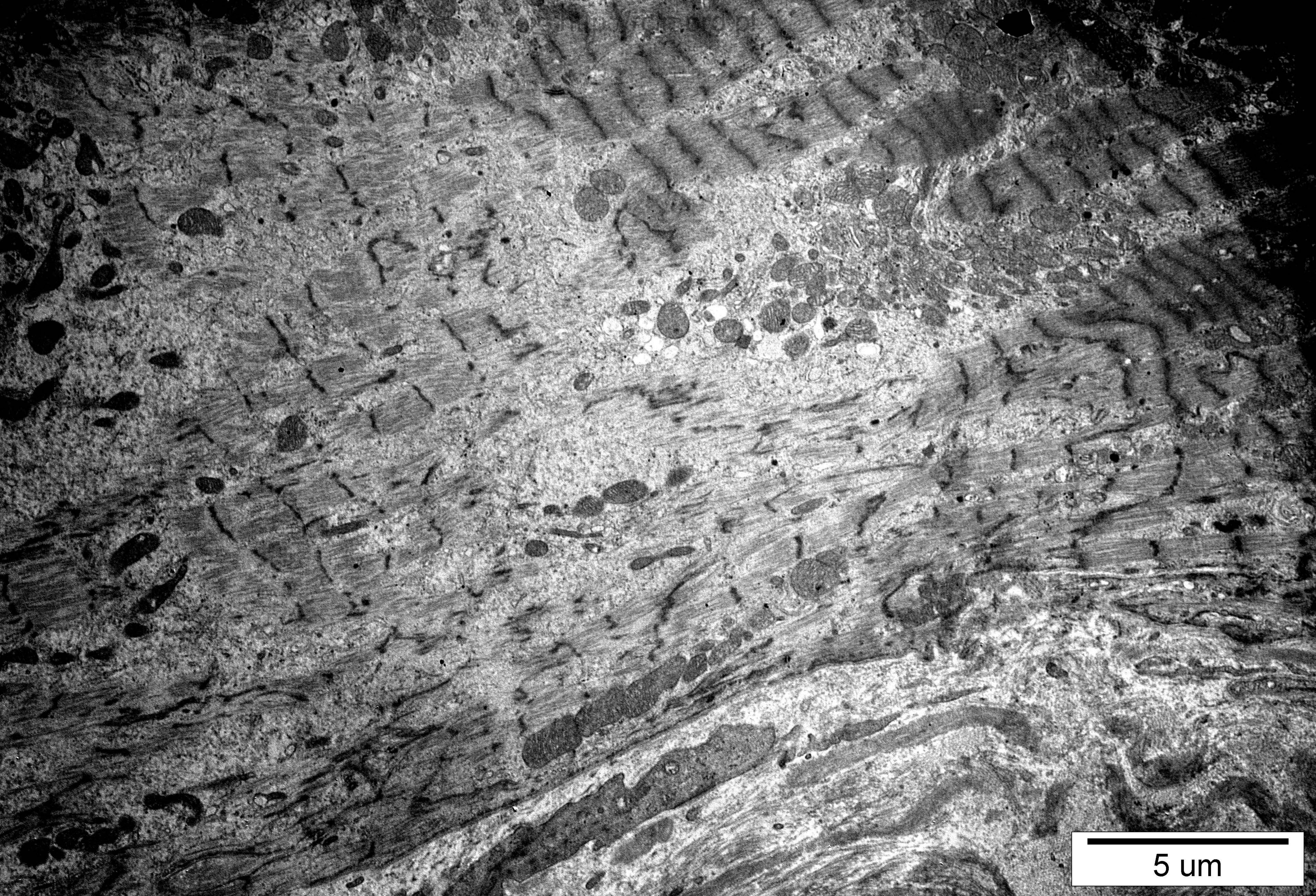
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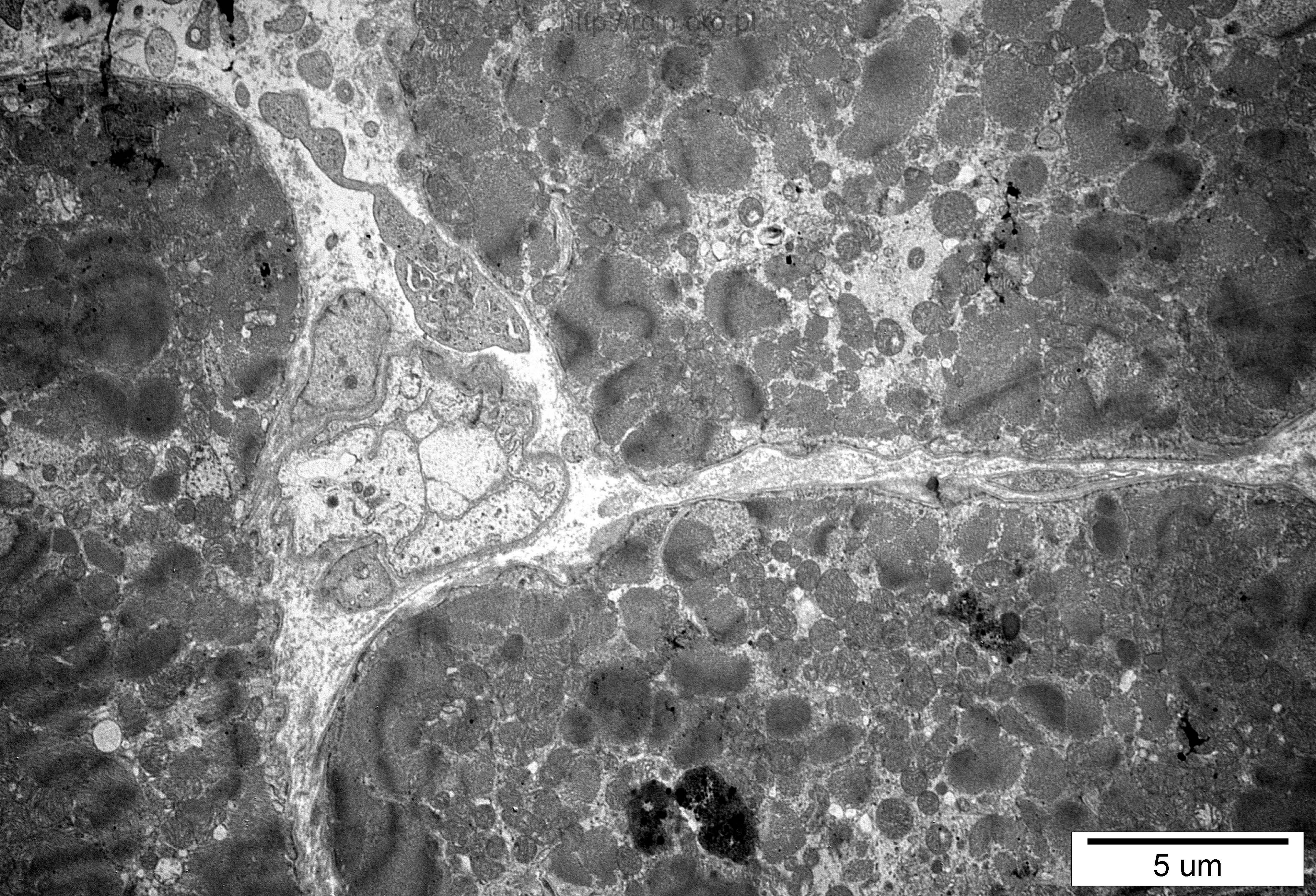
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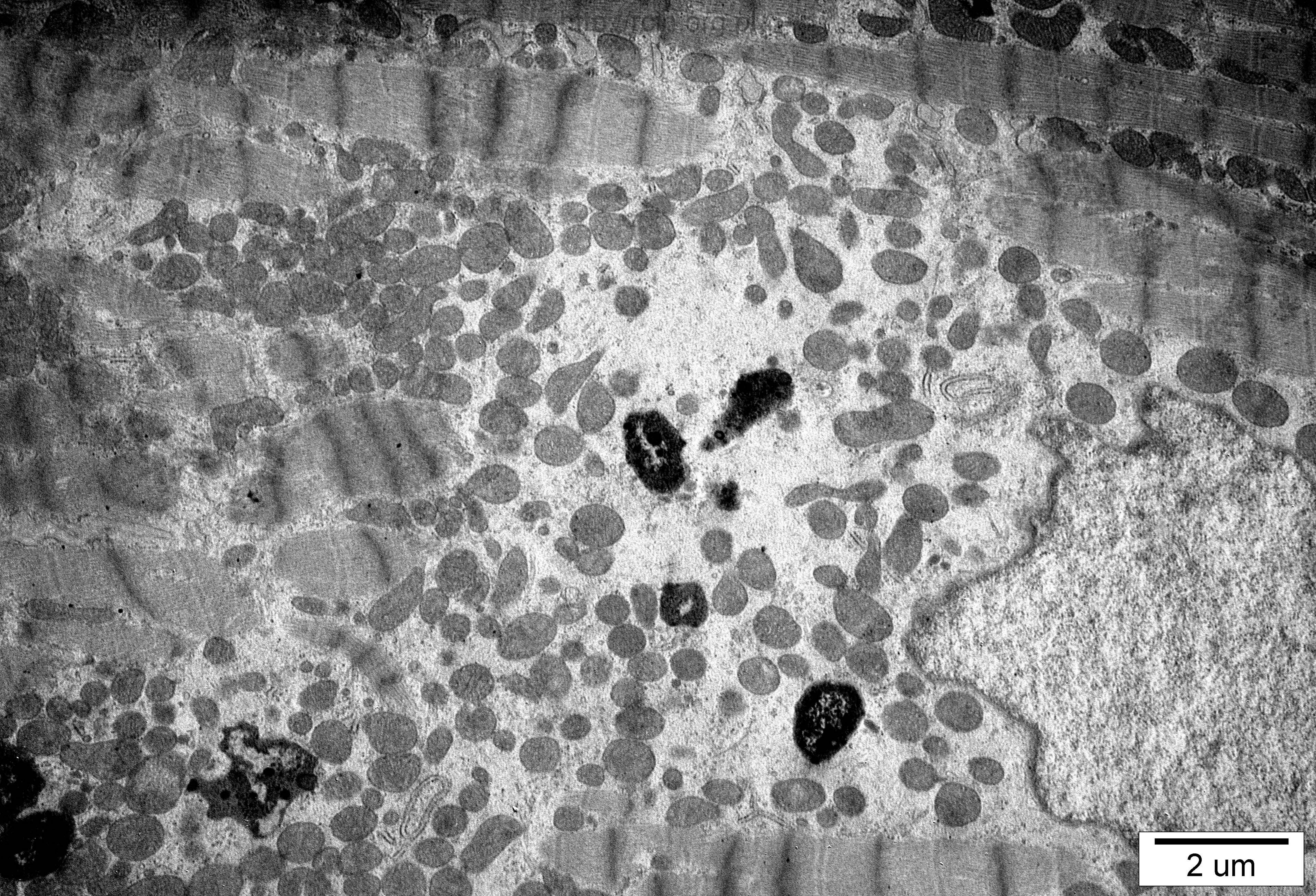
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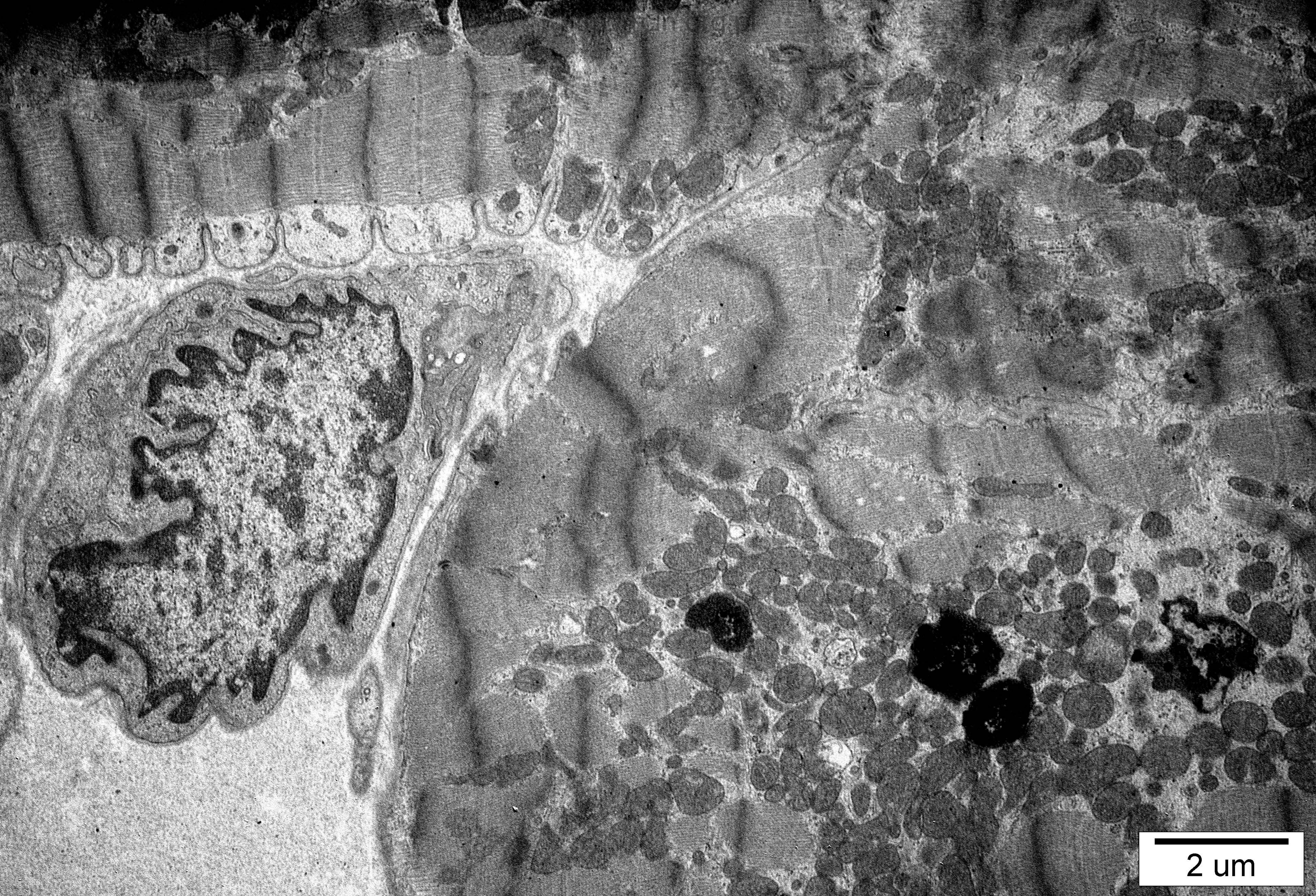
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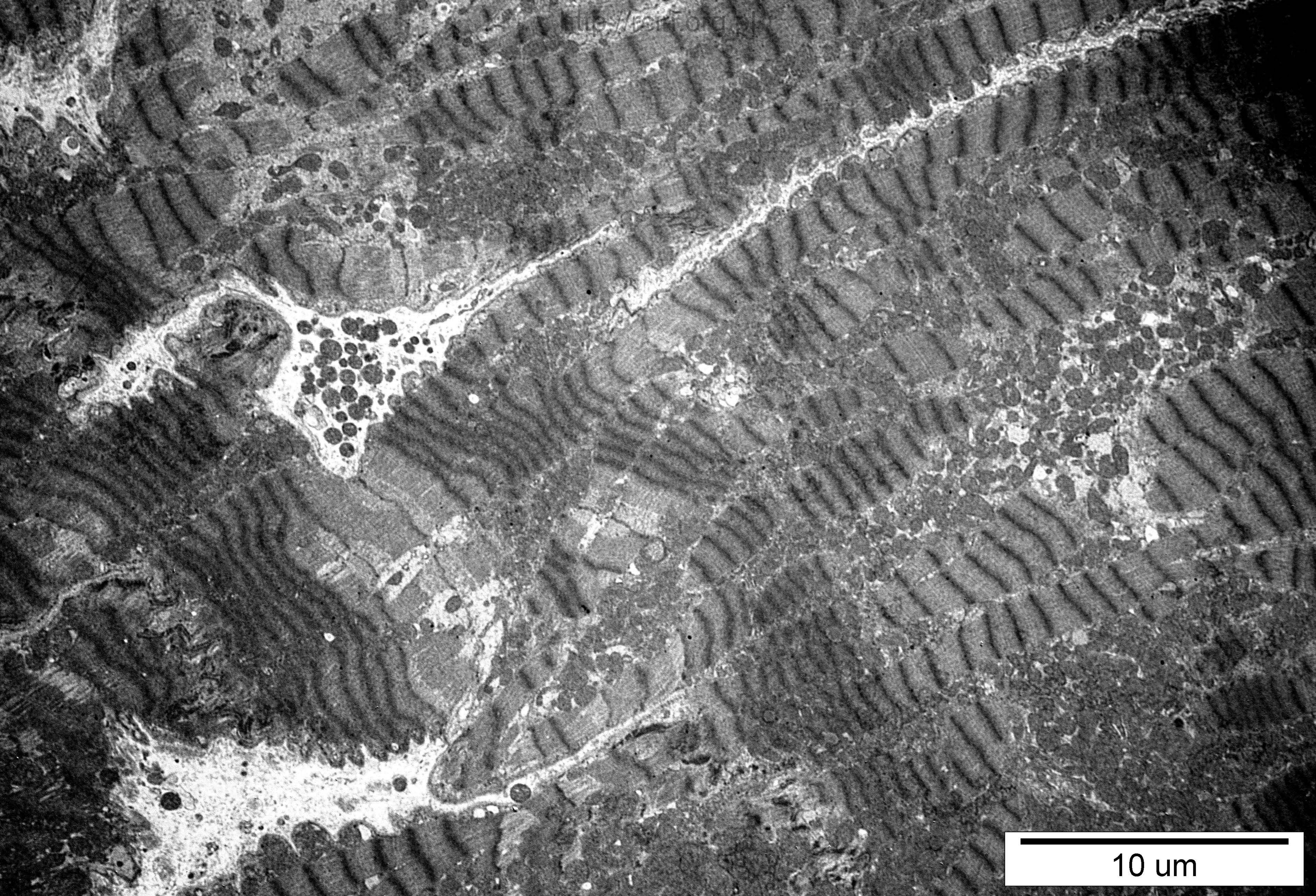
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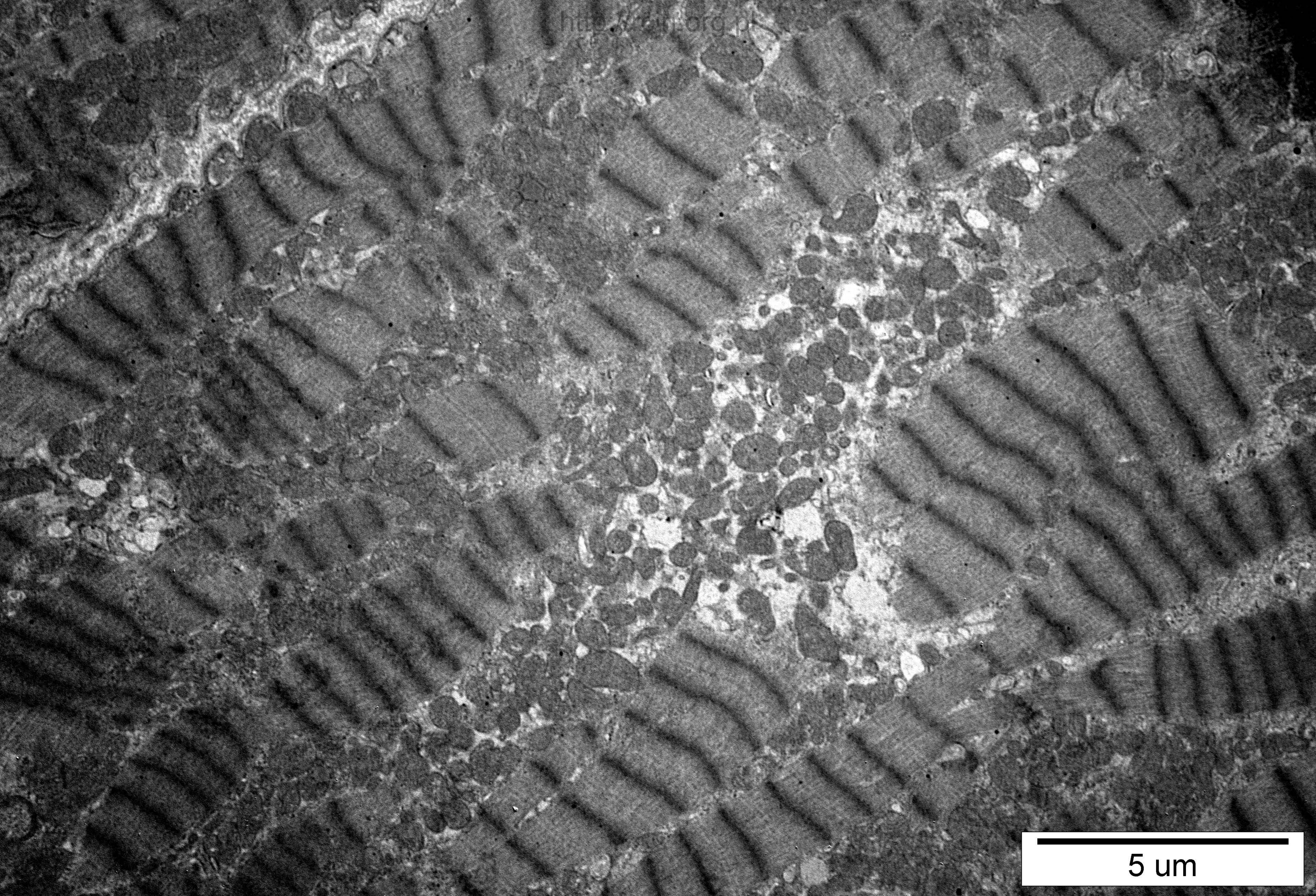
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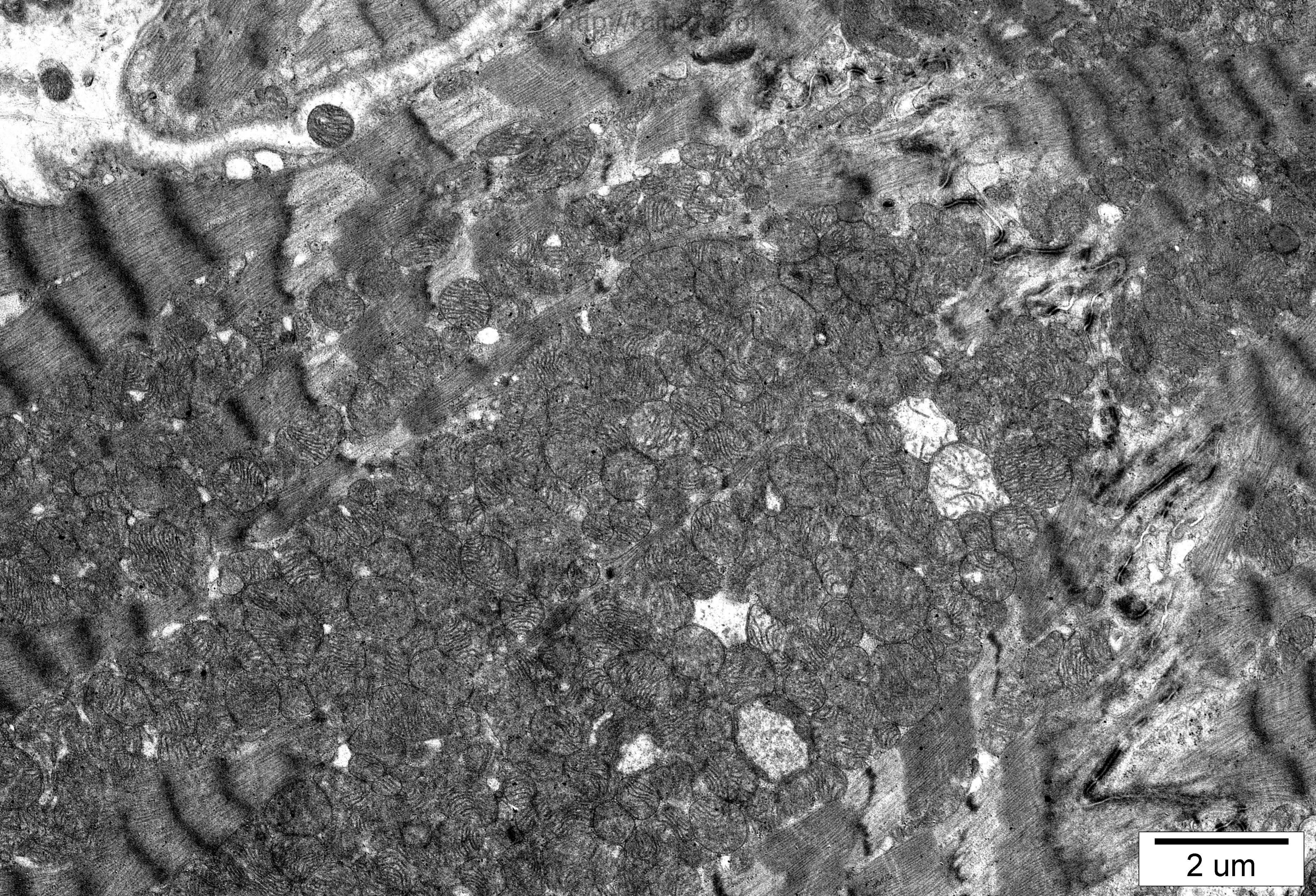
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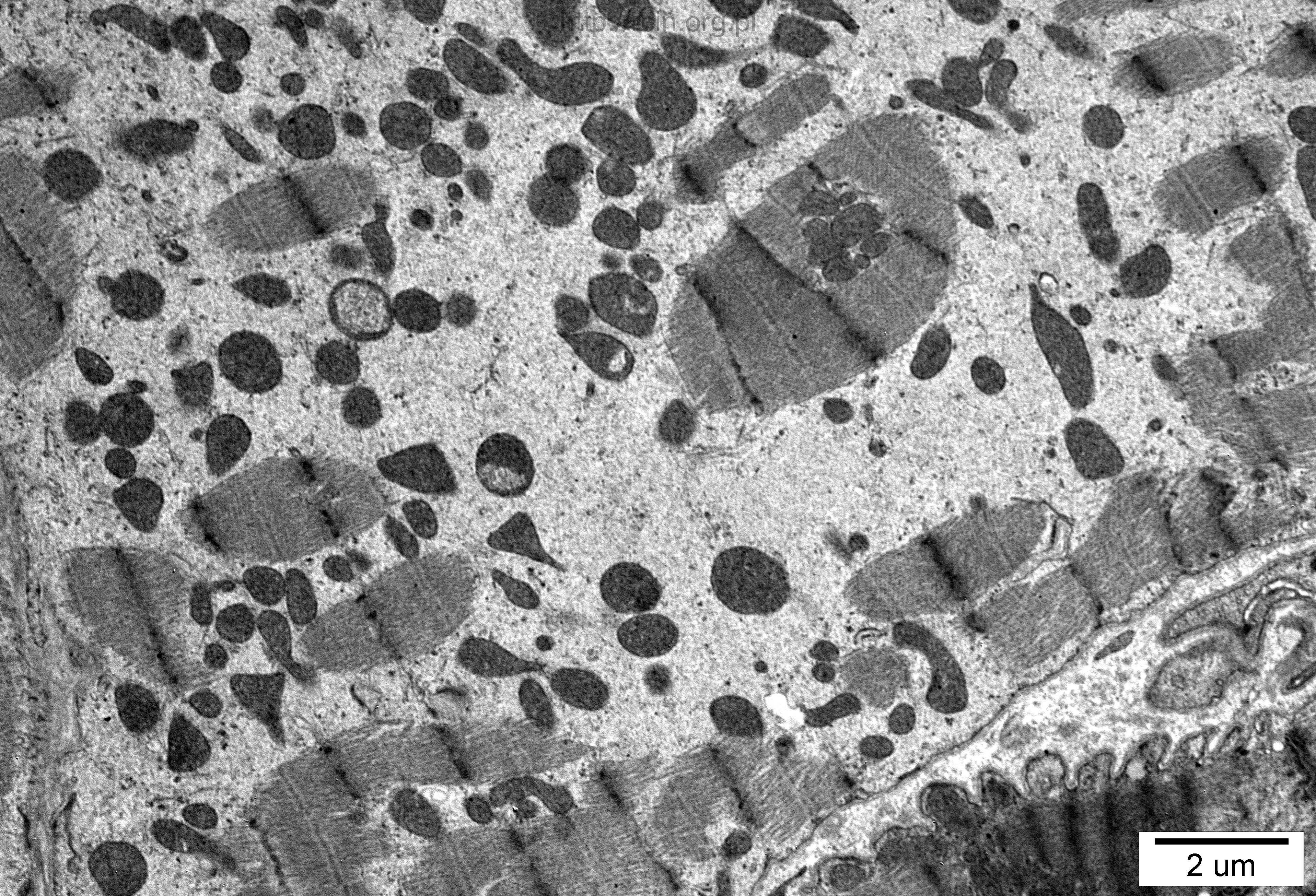
10 um



5 μ m



2 um



2 μm

47-1 serce

Ocena ultrastrukturalna wykazała zachowaną strukturę sarkomerów w przeważającej części biopsatu (Fig. 47-1-1, 2) jednak miofibryle były rozproszone (Fig. 47-1-4, 5, 25, 26), a miejscami obserwowano ich zanik (Fig. 47-1-18, 19, 33). Obserwowano nieprawidłowe mitochondria o ciemnej elektronowo macierzy (Fig. 47-1-5, 10) lub uszkodzonych grzebieniach mitochondrialnych (Fig. 47-1-32). W miejscach pozbawionych miofibryli mitochondria występowały bardzo licznie (Fig. 47-1-17). Jądra kardiomiocytów były prawidłowe i położone ośrodkowo (Fig. 47-1-1, 2, 12, 28), obserwowano też nieliczne jądra o zmienionym kształcie, charakteryzujące się licznymi wgłobieniami w otoczce jądrowej (Fig. 47-1-14). Obecne były lipofuscyny (Fig. 47-1-8, 9, 29). W przestrzeni zewnątrzkomórkowej widoczne były liczne włókna kolagenu (Fig. 47-1-16, 22, 24) oraz naczynia kapilarne o śródbłonku wykazującym cechy nekrozy (Fig. 47-1-11, 27).

Ultrastructural analysis revealed preserved sarcomere structure in the major part of the biopsy (Figs. 47-1-1,2) but disorganization (Figs. 47-1-4,5,25,26) and atrophy of myofibrils were observed (Fig. 47-1-18,19,33). Ultrastructurally changed mitochondria characterised by electron-dark matrix (Figs. 47-1-5,10) or damaged mitochondrial cristae (Fig. 47-1-32) were seen. In areas lacking myofibrils, mitochondria were abundant (Fig. 47-1-17). Most of the cardiomyocytes' nuclei were normal and centrally located (Figs. 47-1-1,2,12,28). Few nuclei of altered shape, characterized by numerous indentations in the nuclear envelope were observed (Fig. 47-1-14). Some lipofuscin deposits were present (Figs. 47-1-8,9,29).

Abundant collagen fibrils (Figs. 40s-2000-5, 21,25) and capillary vessels with endothelium showing features of necrosis (Figs. 47-1-11,27) were seen in the extracellular space.