

Melatonin administration provokes the activity of dendritic reticular cells in the seminal vesicle of Soay ram during the non-breeding season

Running title: Effect of melatonin on the dendritic cells

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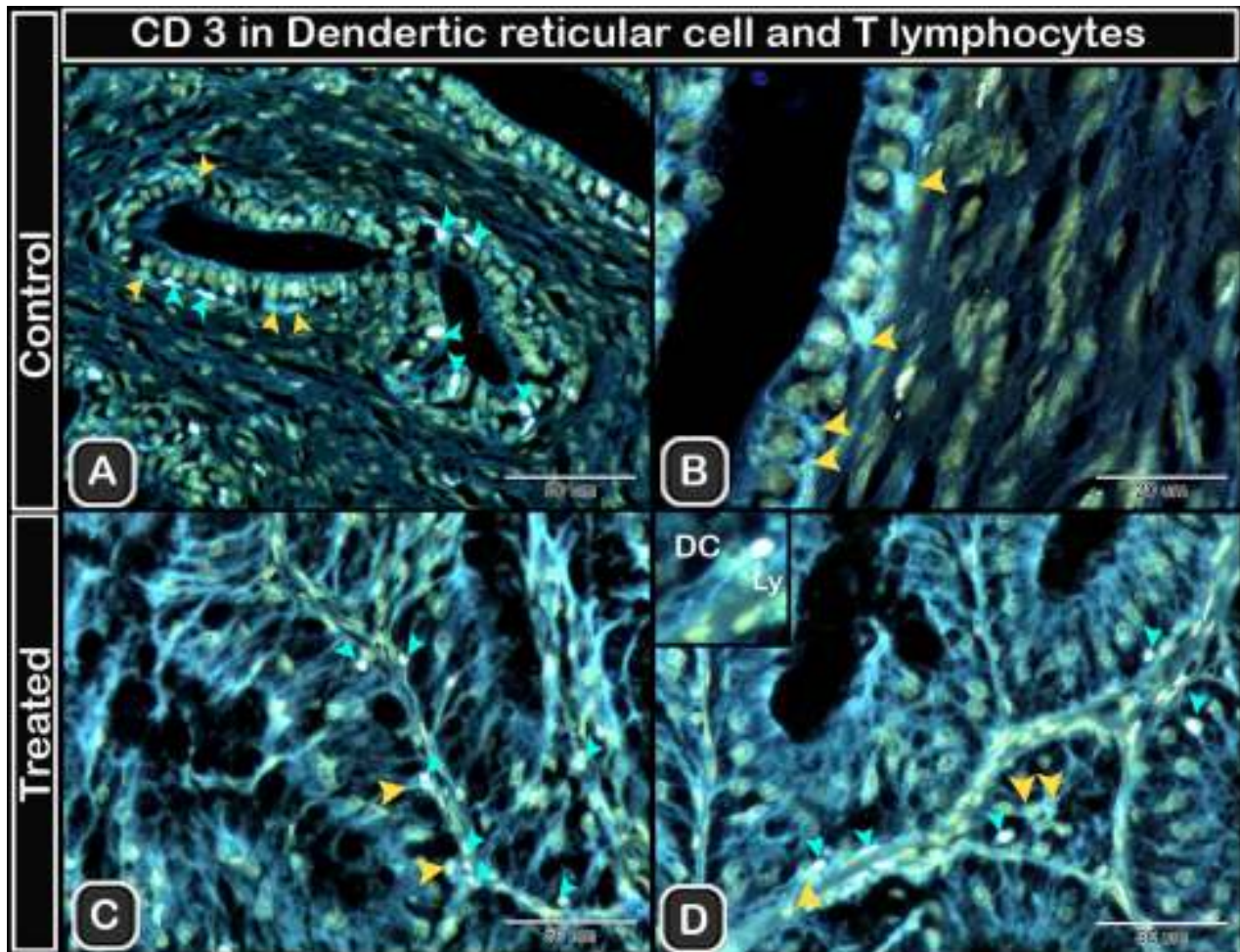
ORCID ID: <https://orcid.org/0000-0003-2801-6066>

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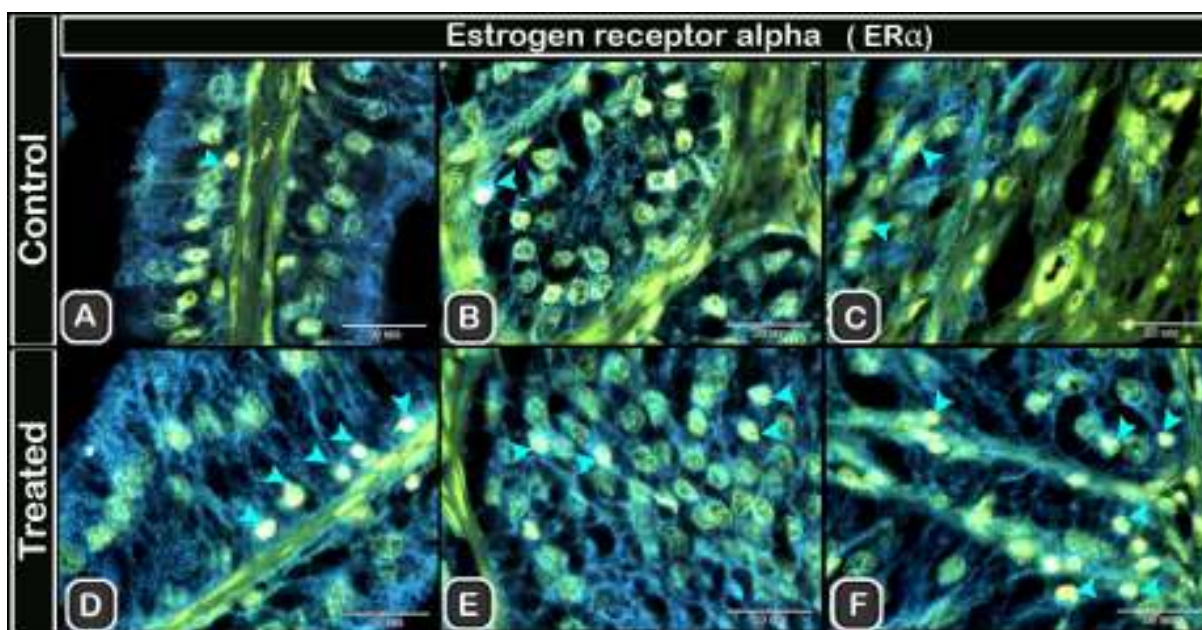
CMEIAS color segmentation: (for all supplementary images)

Negative images performed by using CMEIAS color segmentation (**CMEIAS color segmentation** is a free, improved computing technology),

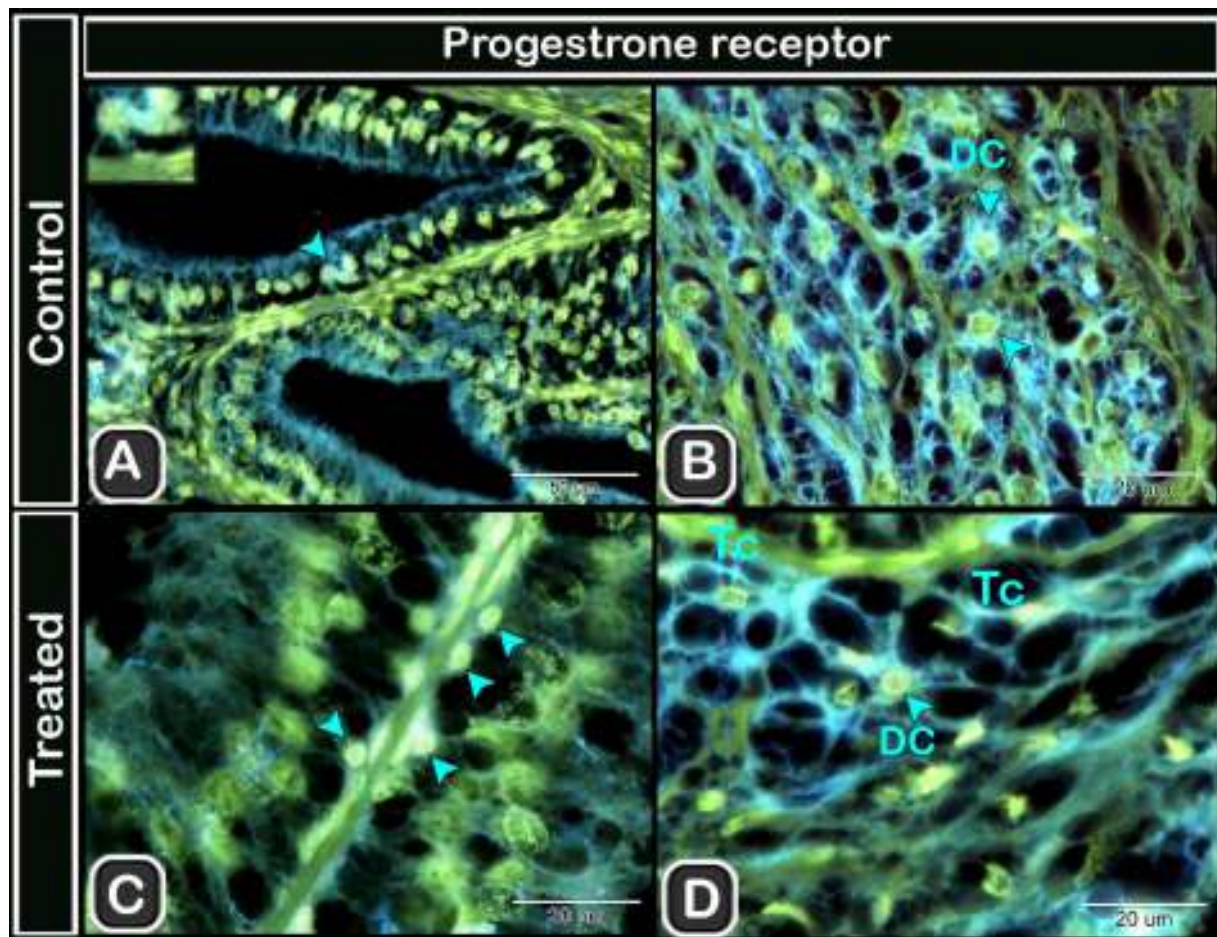
<http://www.mybiosoftware.com?cmeias-color-segmentation-1-0-segment-analyze-foreground-objects-complex-images.html>



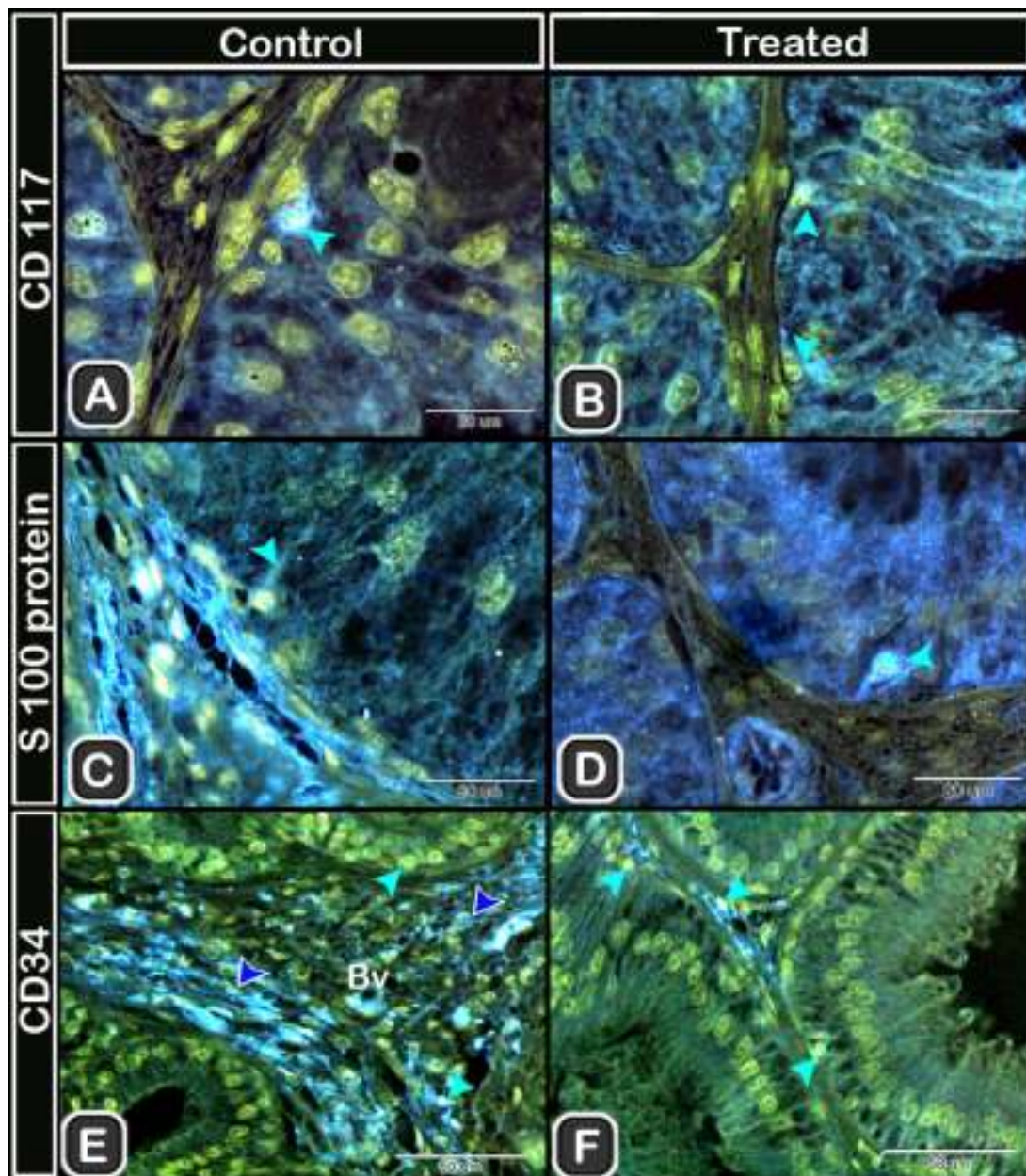
Supplementary legend 1: Negative images for organization of CD3 positive DCs (orange arrowheads) and T-Lymphocytes (green arrowheads) in Soay ram seminal gland. (A, B) control groups (C-D) melatonin treated groups by using CMEIAS Color Segmentation.



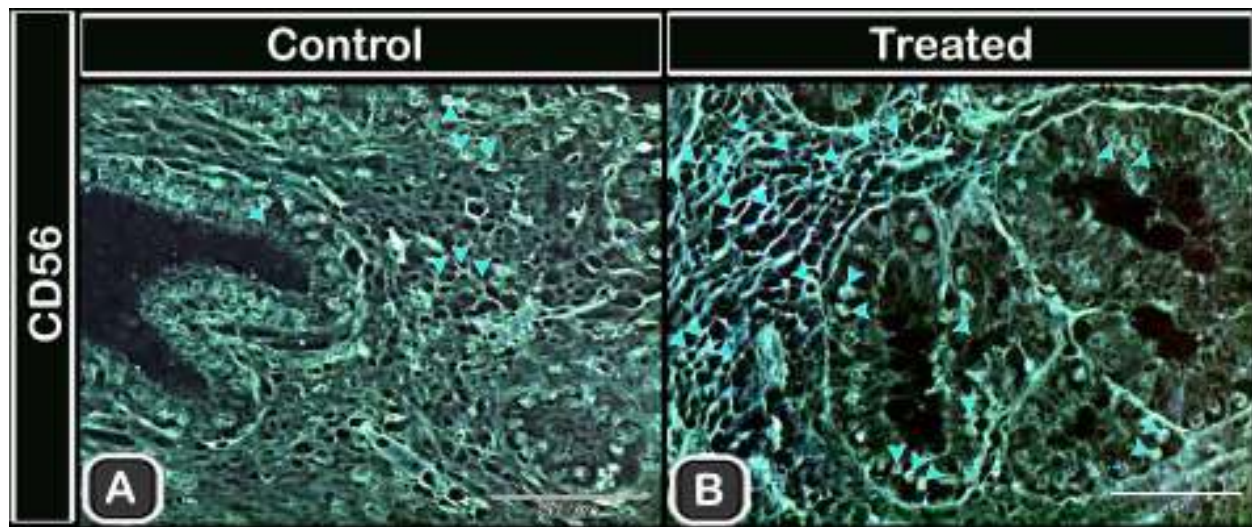
Supplementary legend 2: Negative images for organization of estrogen alpha-receptor positive DCs (green arrowheads) in Soay ram seminal gland. (A-C) control groups (D-E) melatonin treated groups by using CMEIAS Color Segmentation.



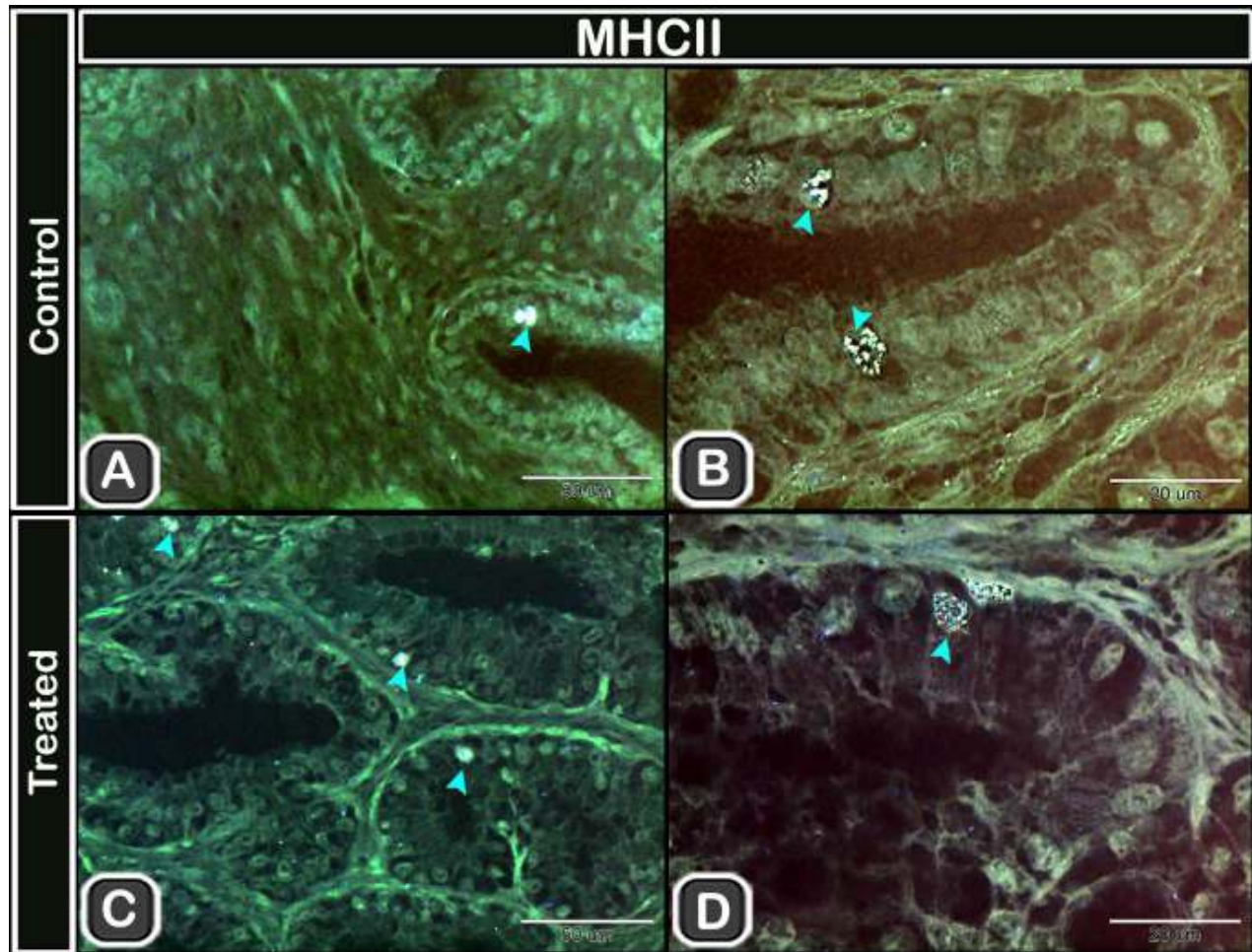
Supplementary legend 3: Negative images for organization of progesterone receptor positive DCs (green arrowheads) in Soay ram seminal gland. (A-B) control groups (C-D) melatonin treated groups by using CMEIAS Color Segmentation.



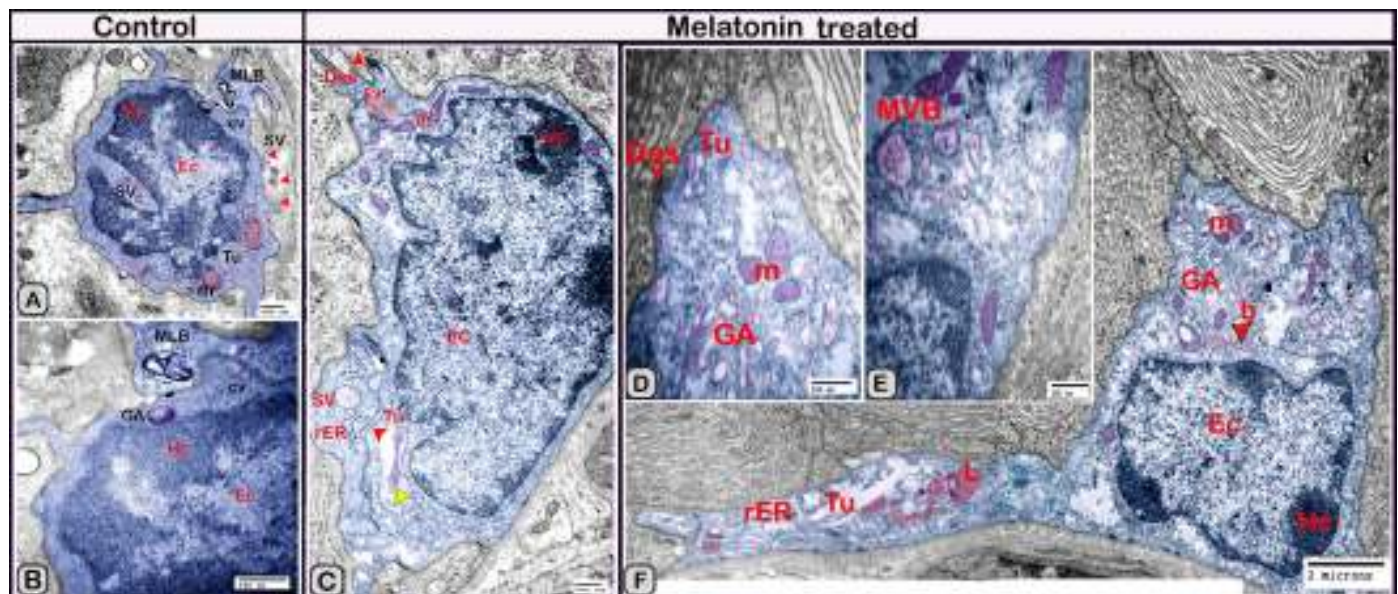
Supplementary legend 4: Negative images for organization of Cd117, S100 protein and CD34 positive DCs (green arrowheads) and telocytes (blue arrowheads) in Soay ram seminal gland. (A, C, E) control groups (B, D, F) melatonin treated groups by using CMEIAS Color Segmentation.



Supplementary legend 5: Negative images for organization of CD56 positive DCs (green arrowheads) in Soay ram seminal gland. (A) control groups (B) melatonin treated groups by using CMEIAS Color Segmentation.

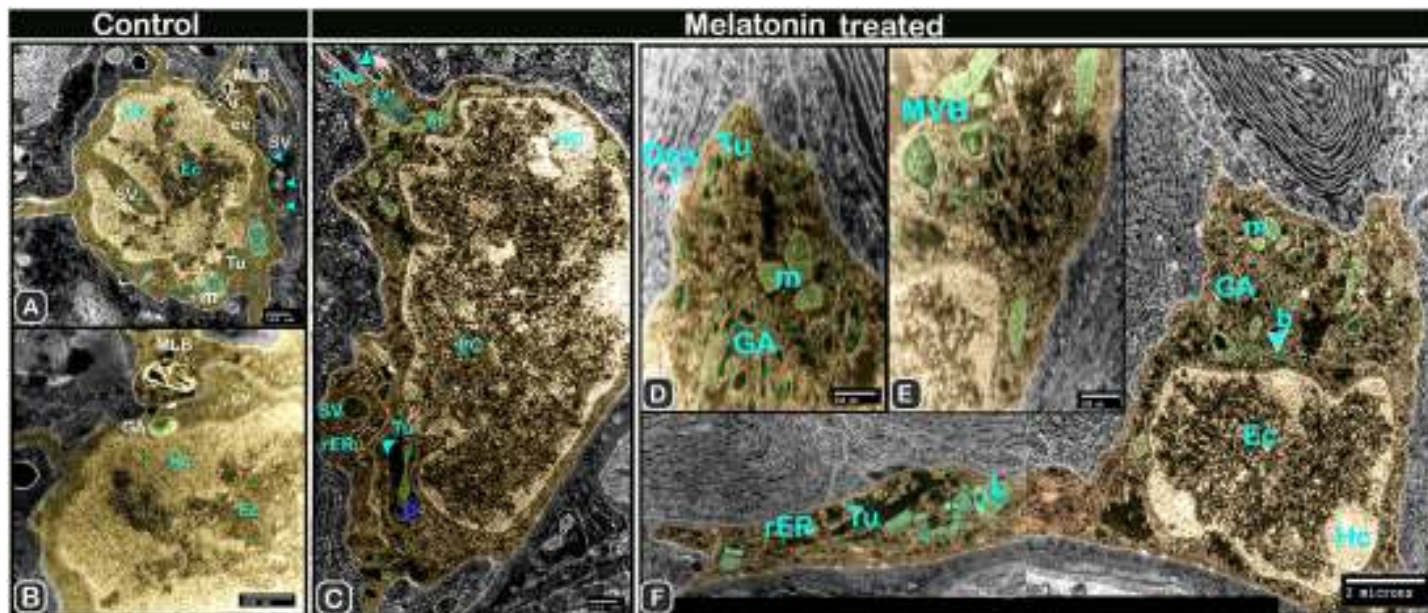


Supplementary legend 6: Negative images for organization of MHCII positive DCs (green arrowheads) in Soay ram seminal gland. (A, B) control groups (C, D) melatonin treated groups by using CMEIAS Color Segmentation.



Supplementary legend 7: abstract figure of digitally coloured transmission electron microscope images and negative showing a stimulatory effect of melatonin on the DCs, which was associated with increment in the secretory activity of DCs. A and B the dendritic cells in the control groups had a deeply indented nucleus and a great amount of the peripheral heterochromatin. The cytoplasm contained few cell organelles. C, D, E, F the dendritic cells in the melatonin treated groups with abundant cell organelles and euchromatic nucleus. The cytoplasmic cell processes were thin and short. Abundant mitochondria and well-developed Golgi apparatus, Birbeck granules, multilamellar bodies were observed. The endosomal lysosomal system was more developed compared to the control group.

Abbreviation: heterochromatin (HC), Euchromatin (EC), mitochondria (m), Golgi apparatus (GA), cavolae (cv), secretory vesicles (SV, arrowhead). multilamellar bodies (MLB), tubules (Tu), Birbeck granules (b, arrowhead), multivesicular bodies (MVB), phagolysosomes (L)



Supplementary legend 8: Negative images by using CMEIAS Color Segmentation showing a stimulatory effect of melatonin on the DCs, which was associated with increment in the secretory activity of DCs. A and B the dendritic cells in the control groups had a deeply indented nucleus and a great amount of the peripheral heterochromatin. The cytoplasm contained few cell organelles. C, D, E, F the dendritic cells in the melatonin treated groups with abundant cell organelles and euchromatic nucleus. The cytoplasmic cell processes were thin and short. Abundant mitochondria and well-developed Golgi apparatus, Birbeck granules, multilamellar bodies were observed. The endosomal lysosomal system was more developed compared to the control group. Abbreviation: heterochromatin (HC), Euchromatin (EC), mitochondria (m), Golgi apparatus (GA), cavales (cv), secretory vesicles (SV, arrowhead), multilamellar bodies (MLB), tubules (Tu), Birbeck granules (b, arrowhead), multivesicular bodies (MVB), phagolysosomes (L)