



**Figure S5** Ultrastructural analysis of the acrosome and maturation phases from the control and *TNAP-Atg7<sup>-/-</sup>* mice. **(A)** Typical transmission electron microscopy images of the acrosome and maturation phases in the control mice. **(B)** Transmission electron microscopy images show the malformed acrosome, together with less condensed chromatin and/or impaired nuclear elongation, in the later stages of acrosome biogenesis in the spermatids of *TNAP-Atg7<sup>-/-</sup>* mice. nu, nucleus; Golgi, Golgi apparatus.