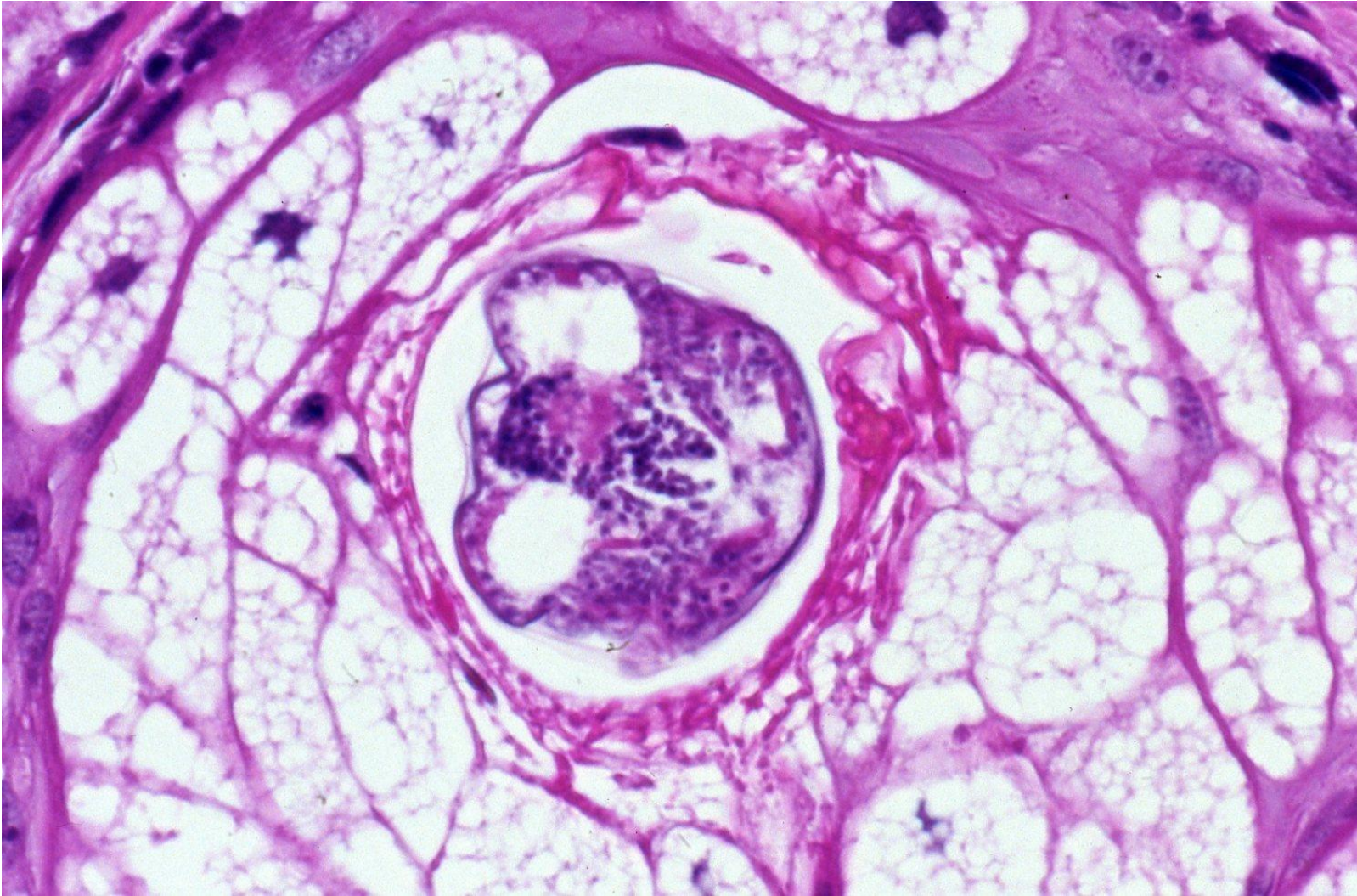


# IgD reaction against *Demodex folliculorum* and *D. brevis*

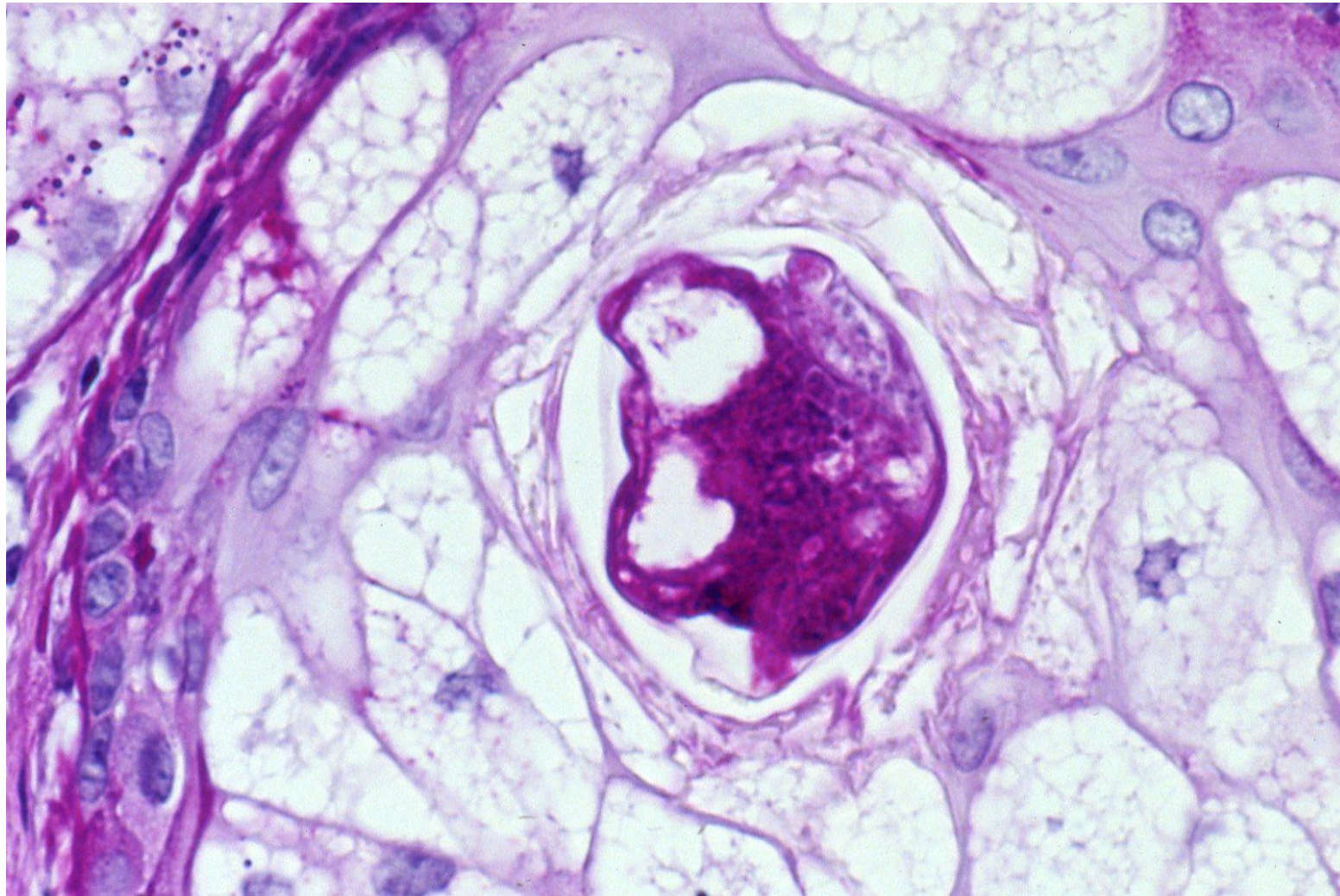
*Demodex folliculorum* and *D. brevis* are normal residents in hair follicles with well-developed sebaceous glands. *Demodex folliculorum*, 0.3 mm in length, resides mainly in the outlet of the hair follicle distal to the sebaceous gland junction, whereas *D. brevis*, 0.2 mm in size, is seen mainly within the lumen of the sebaceous gland. Both species have four pairs of small legs and are frequently found in the pilosebaceous unit in biopsy specimens of the facial skin. The mites may provoke acne demodecica or worsen rosacea when there is secondary bacterial infection. After the use of steroid ointment, the number of mites increases significantly, and a granulomatous reaction may be associated with *Demodex* infestation.

Of note is that the cuticular layer of the mites located within the pilosebaceous unit is selectively immunoreactive for IgD (delta chain), alpha-1-antitrypsin and alpha-1-antichymotrypsin. Negative results are obtained for IgG, IgA, IgM, IgE, albumin, fibrinogen, C3, amyloid P component, prealbumin, lysozyme and lactoferrin.

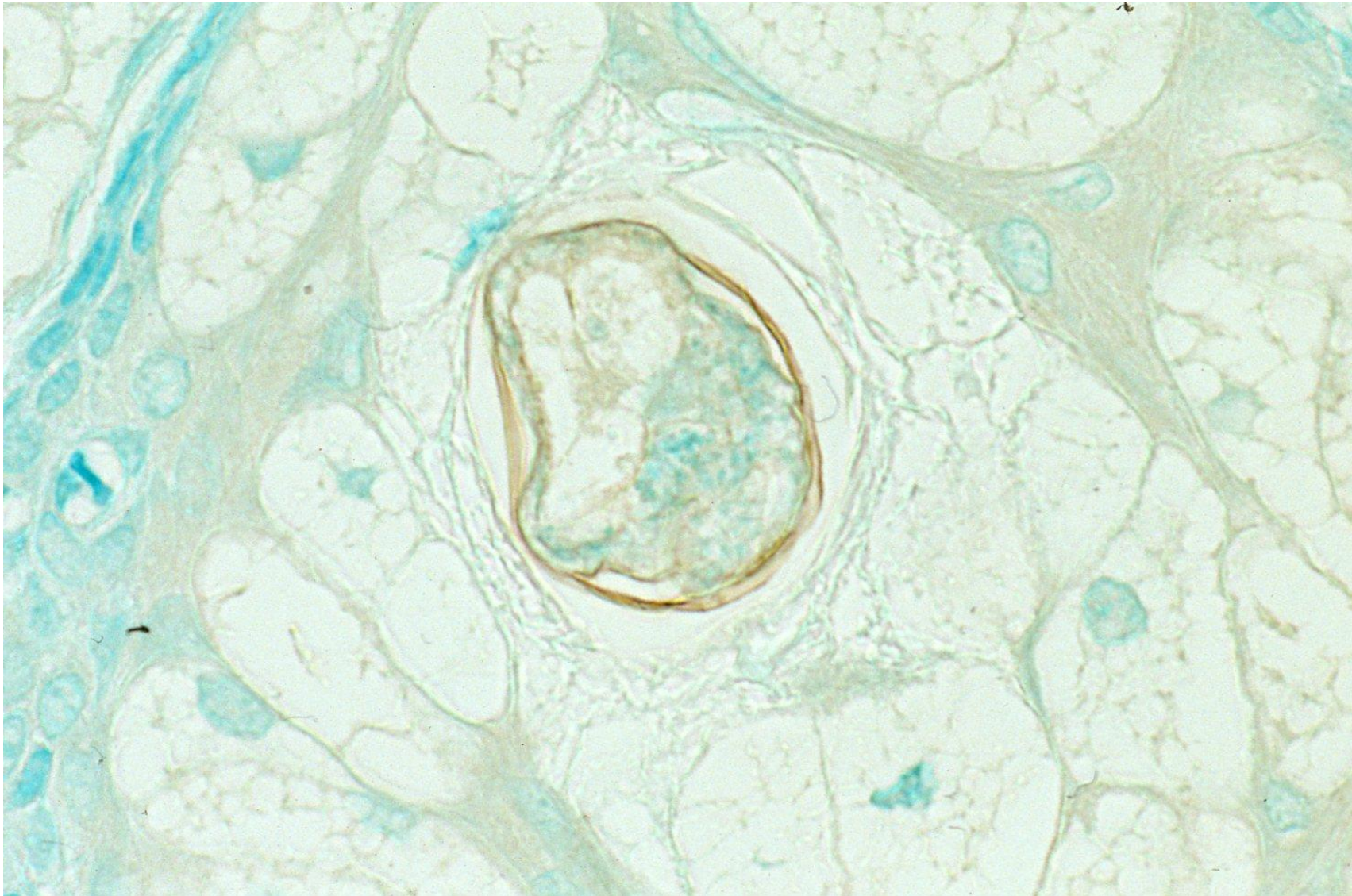
Ref.: Tsutsumi Y. Deposition of IgD, alpha-1-antitrypsin and alpha-1-antichymotrypsin on *Demodex folliculorum* and *D. brevis* infesting the pilosebaceous unit. *Pathol Int* 2004; 54: 32-34. doi: 10.1111/j.1440-1827.2004.01581.x



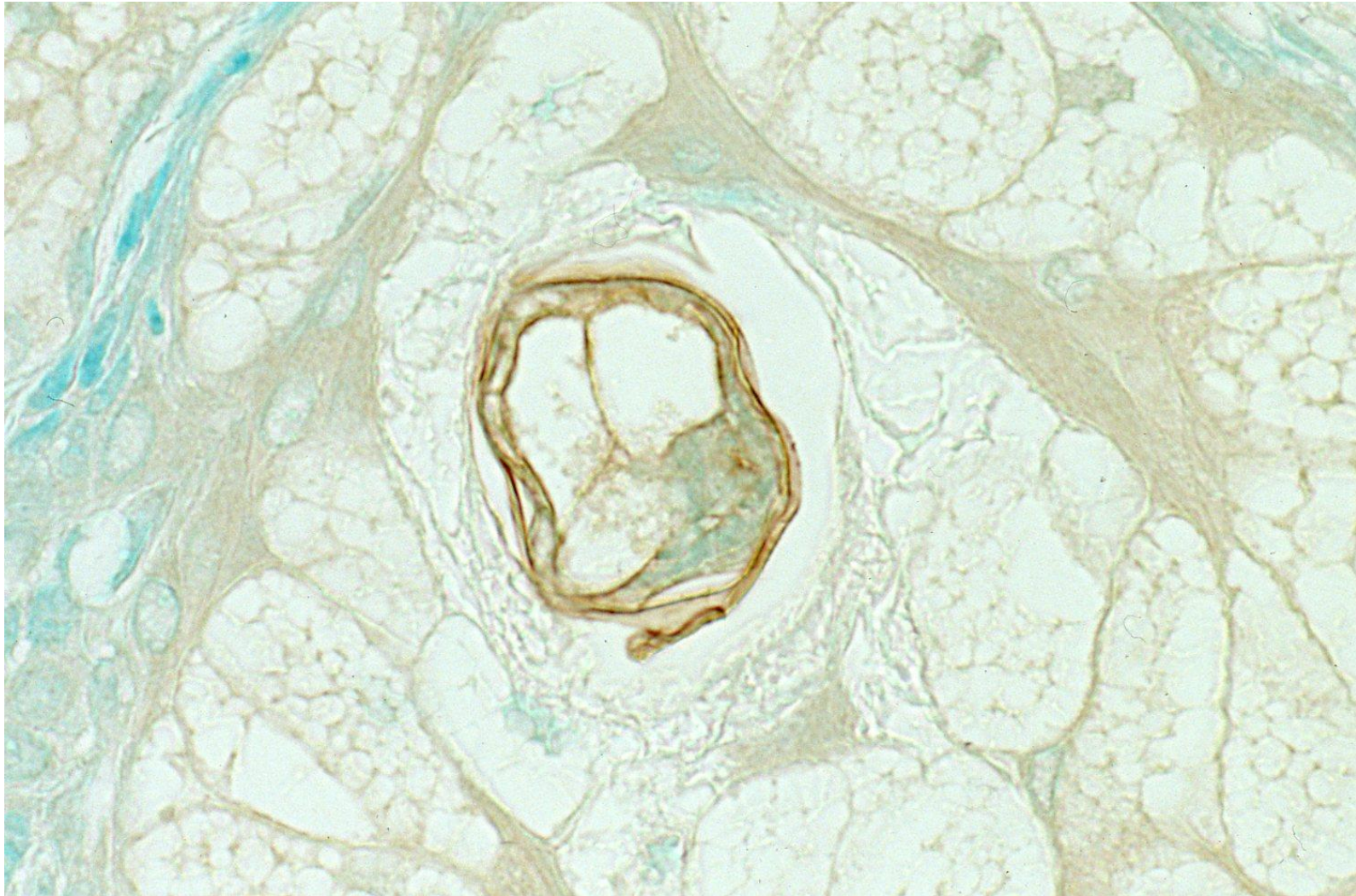
*Demodex brevis* seen in the lumen of the sebaceous gland. H&E



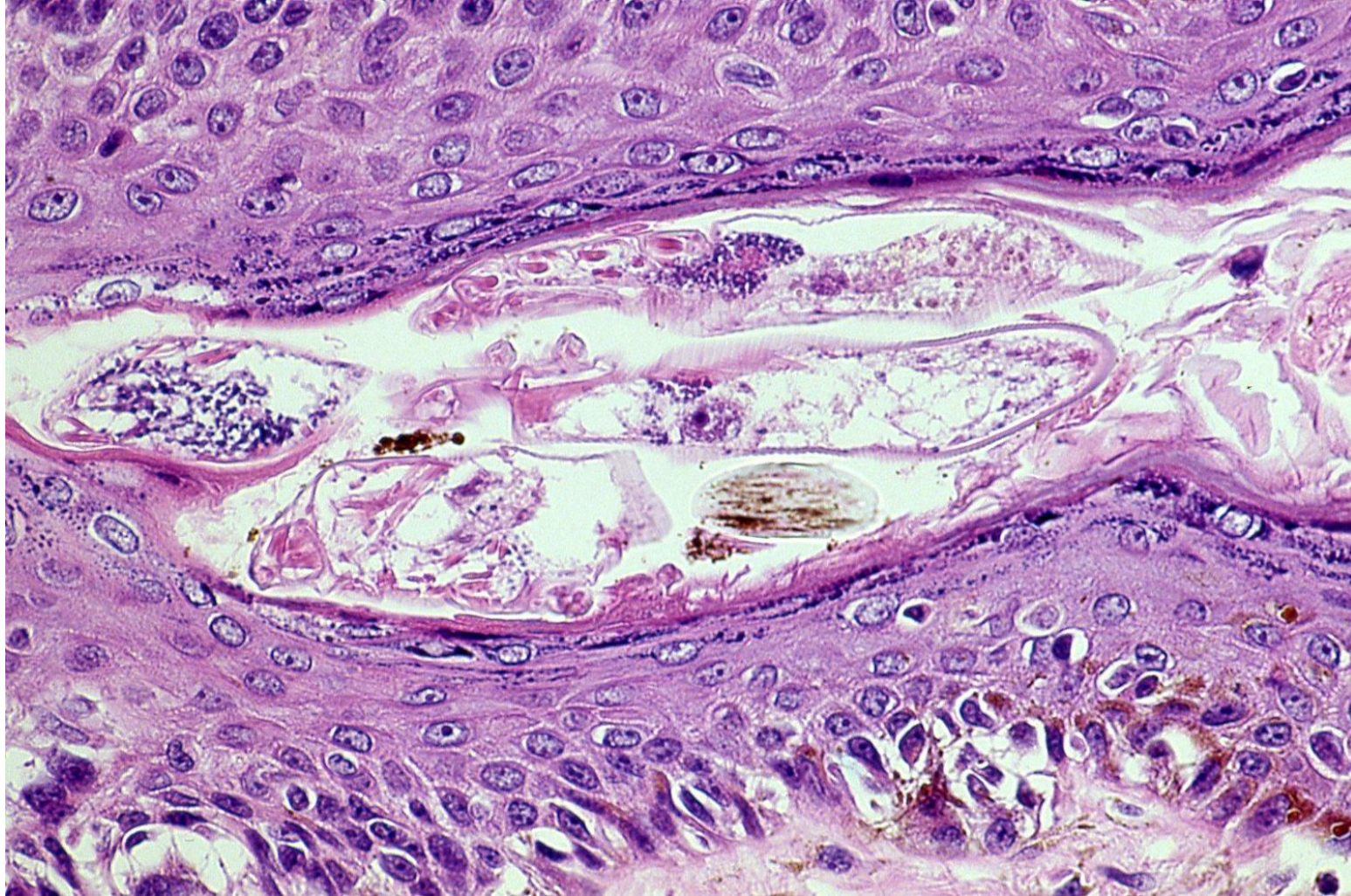
*Demodex brevis* seen in the lumen of the sebaceous gland.  
The mite contains rich glycogen. PAS



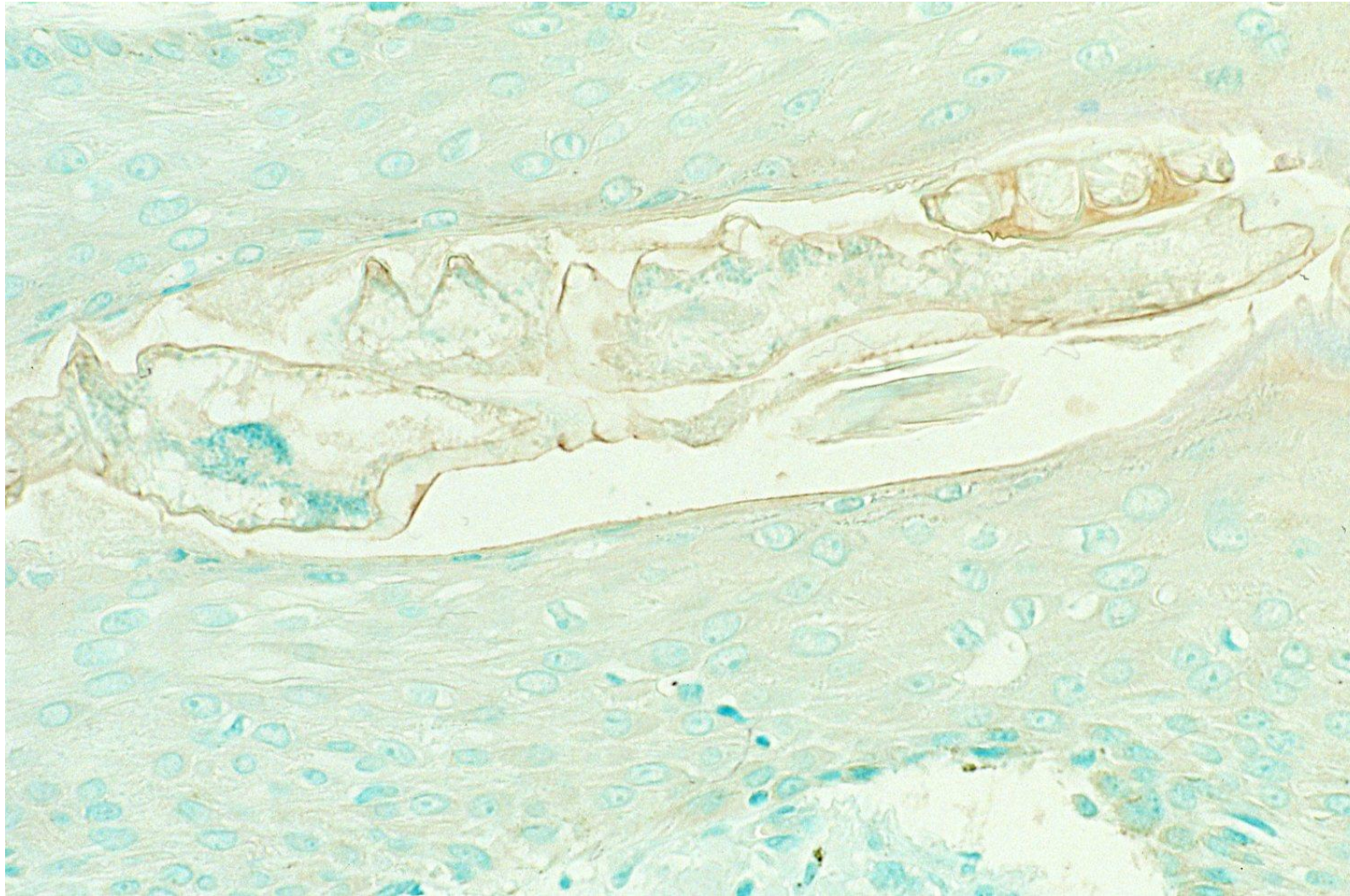
*Demodex brevis* seen in the lumen of the sebaceous gland. IgD deposition is observed on the cuticular layer of the mite. Immunostaining for IgD



*Demodex brevis* seen in the lumen of the sebaceous gland. Alpha 1-antitrypsin (AAT) deposition is observed on the cuticular layer of the mite. Immunostaining for AAT.



*Demodex folliculorum* seen in the outlet of the hair follicle. H&E



*Demodex folliculorum* seen in the outlet of the hair follicle.  
Deposition of IgD is observed on the cuticular layer of the mite.  
Immunostaining for IgD



*Demodex folliculorum* seen in the outlet of the hair follicle. Deposition of alpha 1-antitrypsin (AAT) is observed on the cuticular layer of the mite. Immunostaining for AAT





*Demodex folliculorum* seen at the outlet of the hair follicle. Deposition of IgD and alpha 1-antitrypsin is evident on the surfaces of the mite.