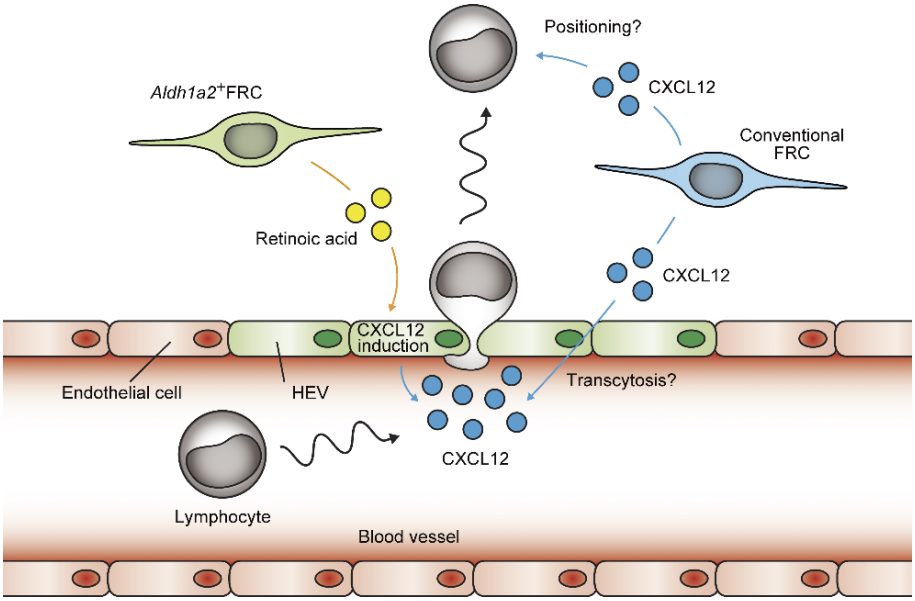
Aldh1a2+ fibroblastic reticular cells regulate lymphocyte recruitment in omental milky spots.

Lymphoid clusters in visceral adipose tissue omentum, known as milky spots, play a central role in the immunological defense in the abdomen. However, their development and maturation mechanisms are poorly understood.

Tomomi Yoshihara and Yasutaka Okabe (Lab. Immune Homeostasis, IFReC) identified a subset of fibroblastic reticular cells (FRCs) that are uniquely present in omental milky spots. There results illustrate the homeostatic roles of FRCs in the formation of non-classical lymphoid tissues.



Proposed model for recruitment of circulating lymphocytes into the milky spots. CXCL12 in the milky spots is produced from two sources. Aldh1a2+ FRC-derived retinoic acid induces the expression of CXCL12 in endothelium, which regulates the constitutive recruitment of circulating lymphocytes to the milky spots. Additionally, conventional FRCs are also the source of CXCL12.

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