

## **Regulation of dermal lymphatic vascular formation by blood vessel-related factors**

Masanori Hirashima

*Div. Pharmacol., Grad. Sch. Med. Dent. Sci., Niigata Univ.*

Development of lymphatic endothelial cells (LECs) and subsequent formation of lymphatic vasculature are highly related to blood vessels. Previous studies indicated that lymphatic vascular patterning is regulated, at least in part, by blood vessel-related factors. LECs are differentiated from venous endothelial cells and migrate adjacent to arteries toward peripheral tissues, such as the skin. Following migration along arteries, LECs should eventually be repelled from blood vessels to form a random lymphatic vascular network. We previously showed that this repulsive migration is regulated by the artery-derived guidance factor Semaphorin 3G. Lymphatic vasculature in adults is separate from blood vessels except for physiological lymph-venous connection sites at the venous angle and is free of blood cells, such as erythrocytes and platelets. Here I will discuss a possible role and molecular mechanism of platelets in partitioning blood and lymphatic vascular compartments by promoting LEC retraction in mouse embryonic skin.