Orion™: 15-Plex Single-Step Stain & Imaging of Tonsil Tissue with Reactive Lymphoid Hyperplasia

Overview

RareCyte, Inc.

PD-L1 and PD-1 are cognate immune checkpoint receptors involved in immune suppression and tissue remodeling. The Orion 15-plex stain allows for the simultaneous localization of PD-L1 and PD-1 along with other immune cell markers.

Microscope-Sегодня are multiplexed observations of immune cells in tonsil tissue.

**PD-L1 Expression**

PD-L1 is expressed at high levels (red arrows) in the tonsillar crypt epithelium (figure 1). PD-L1 is also expressed on macrophages in the inter-follicular regions (figure 2). PD-L1 is expressed at moderate levels in the inter-follicular regions (figure 3). PD-L1 is expressed at low levels in the inter-follicular regions (figure 4).

**Helper T cells (CD4, green)** participate in the activation of B cell (CD20, blue) expansion. Helper T cells (CD4) are recruited to the follicle (figure 5). Helper T cells (CD4) are recruited to the follicle (figure 6). Helper T cells (CD4) are recruited to the follicle (figure 7).

**Macrophage subsets**

Macrophage subsets are observed in the tonsil tissue. Macrophages are recruited to the follicle (figure 8). Macrophages are recruited to the follicle (figure 9). Macrophages are recruited to the follicle (figure 10).

**Lymphocyte trafficking in the High Endothelial Venule (HEV)**

Lymphocyte trafficking occurs in the HEV (figure 11). Lymphocyte trafficking occurs in the HEV (figure 12). Lymphocyte trafficking occurs in the HEV (figure 13).

**Cell proliferation in the follicle**

Cell proliferation in the follicle is indicated by the nuclear marker Ki67 (figure 14). Cell proliferation in the follicle is indicated by the nuclear marker Ki67 (figure 15). Cell proliferation in the follicle is indicated by the nuclear marker Ki67 (figure 16).

**T cell zones**

T cell zones are indicated by the nuclear marker Ki67 (figure 17). T cell zones are indicated by the nuclear marker Ki67 (figure 18). T cell zones are indicated by the nuclear marker Ki67 (figure 19).

**Reactive Tonsil H&E-Stained Section**

Reactive Tonsil H&E-Stained Section provided by measuring autofluorescence. Proliferation is indicated by the nuclear marker Ki67 and tissue morphology is provided by measuring autofluorescence.

**Tissue Staining and Scanning Protocol**

- **CD4 (green arrow)** T cells including FoxP3 (magenta arrow) T regulatory cells.
- Arrows show the following cells within this longitudinal section of the HEV lumen: ample cytoplasm as indicated by the marker CD31 (figure 7).
- Present in the T cell zone and contain characteristic endothelial cells which have specialized for the attachment and transmigration of circulating cells. HEVs are most clearly seen in the mantle zone (figure 6).
- Memory lymphocytes can be identified by the marker CD45RO. In the follicle most of memory B cells are CD20+ and CD45RO+. In the follicle most of memory B cells are CD20+ and CD45RO+. In the follicle most of memory B cells are CD20+ and CD45RO+.
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