

Cite this as: Man YANG, Yurou CHE, Kezhen LI, Zengyi FANG, Simin LI, Mei WANG, Yiyao ZHANG, Zhu XU, Liping LUO, Chuan WU, Xin LAI, Weidong WANG. Detection and quantitative analysis of tumor-associated tertiary lymphoid structures[J]. Journal of Zhejiang University Science B, 2023, 24(9): 779-795.
<http://doi.org/10.1631/jzus.B2200605>

Detection and quantitative analysis of tumor-associated tertiary lymphoid structures

Key words: Tertiary lymphoid structure; Tumor microenvironment; Chemokine signature; Spatial omics; Artificial intelligence; Radiomics

Research Summary

This review summarizes the promising clinical value of tertiary lymphoid structure (TLS), its formation and structural composition, and mainly focuses on the latest research progress on TLS detection and quantification.

We propose that artificial intelligence (AI) contributes to TLS detection and quantification based on traditional methods.

Innovation points

- **Summarize** the six TLS detection methods and two categories of methods to quantify TLS.

- **Propose** that AI contributes to TLS detection and quantification.

- **Find** the three stages of TLS using mIF.

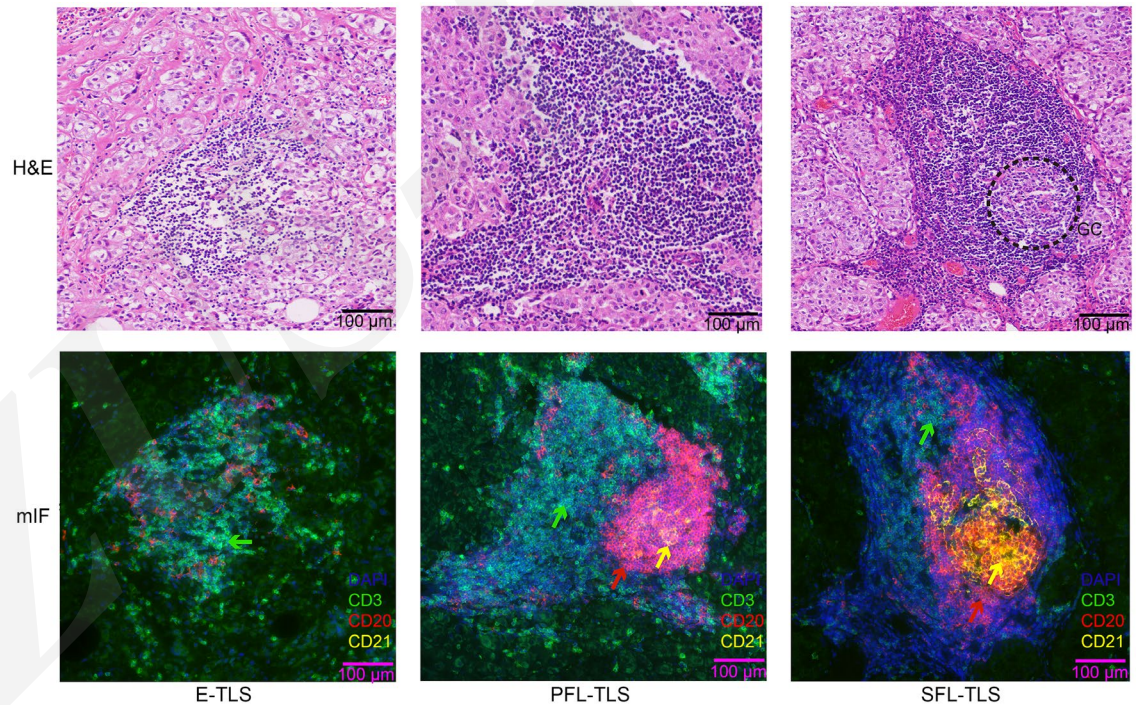


Fig. 2 Three stages of TLS in breast cancer

Innovation points

A series of comprehensive tables and figures were generated to summarize the advantages, formation mechanisms, structure and clinical application strategies of TLS.

Table 1 | Initial studies on TLS with clinical prognosis

Table 2 | TLS maturity-related markers

Figure 1 | General process of TLS formation and growth

Figure 2 | The three stages of TLS in breast cancer

Figure 3 | Strategies for the AI detection and quantification of TLS