

THE MIDWINTER CONFERENCE OF IMMUNOLOGISTS

POSTER ABSTRACT

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Identification of Thymic Signals Involved in Lineage Commitment and Proliferation

During early stages of T cell development, multi-potent progenitors are released from the bone marrow and home to the thymus via blood where they undergo lineage commitment and proliferation. Thymic stromal cells are thought to have an essential role in this process. Characterization of the receptor-ligand interactions that occur between the lymphoid progenitors and stromal cells can be used to identify signals that regulate T-cell development. To identify these signals, microarray screening of RNA from purified thymic progenitors was conducted, and candidates that may have a role in lineage commitment were identified. To substantiate the microarray results, the presence of relevant signal transduction components downstream of each candidate receptor was determined. The presence of ligands for these receptors was also analyzed in different regions of the thymus. Ultimately, the in vivo effect of the predicted ligand-receptor interactions will be evaluated by determining the developmental consequences that mutations in these receptors may have.