**Keywords:** Cytokine pro le; Immuno uorescent; Acute lymphoblastic leukaemia; Fluorochromes

## Introduction

e e ciency of an ongoing immune response depends on the cytokines produced by T helper types 1 (1) and 2 (2), as well as T cytotoxic types 1 (Tc1) and 2 (Tc2). Patients with cancer may experience reduced T-cell-mediated immune system activity due to dysregulated growth of one or both subsets. In the current investigation, we looked into the possibility of such dysregulation in young patients with acute lymphoblastic leukaemia (ALL) [1]. C D4 cells can be divided into various categories that each release distinctive clusters of

therapeutic cytokine discovery is typically restricted to tissue targeting, a nity maturation, and/or half-life extension. More recently, cytokine engineering e orts have shown that protein design and selective structure-based engineering can reduce cytokine pleiotropy [3]. However, unlike multi-pass transmembrane proteins that respond to small molecule agonists, such as GPCRs and ion channels, cytokines are proteins that signal through type-I single-pass transmembrane receptors, which pose signi cant di culties for the discovery of small molecule agonists. e mLN is where early SFB-induced 17 cell conjugate with a poorly stained FITC conjugate that stains the same cell population due to the spectrum overlap of AmCyan into the FITC channel [7].

## **Processing of samples**

Cell therapy development, manufacture, and application continue to face substantial challenges with regard to in-process monitoring and control of biomanufacturing work ows [8,9]. To guarantee consistent and predictable safety, e cacy, and potency of clinical products, new process analytical methods must be developed to identify and manage the crucial process parameters that in uence ex vivo cell growth and ere are various categories of functional indicators di erentiation. that have similar ideal stimulation conditions [10]. For instance, the majority of cytokines, including as IL-2, IL-4, IL-5, IL-13, IFN, MIP-1, and TNF, peak between 6 and 12 hours a er stimulation. Although CD154 keeps this level of expression for up to 24 hours (26), CD107 and CD154 reach their peak expression only a er 6 hours of stimulation, therefore both of these antibodies should be incubated with the cells throughout the stimulation time period. e best time to stimulate IL-10 and TGF is between 12 and 24 hours, and serum-free media is better for detecting TGF [11-13].

## **Result and Discussion**

We rst investigated the pattern of cytokine staining in established l and 2 clones, known only to produce each cytokine by reverse transcription PCR, in order to validate the method of cytokine analysis by ow cytometry. IFN-/ and IFN-/ are mutually exclusive and exhibit di erent kinetics during intracellular synthesis in established l and 2 clones. is study's objective was to simultaneously analyse intraceldev72.9synthesi-9(d o) d I(f)9(o)(-2, ILn)4(e b) T{(m)3(s)5(t)-8(cr)-inracelesidecriheuhrmt th(-5(d t)-6(17(yyIFN-/ a)9(r)t)-6(a)6(o)l4.1(e tcD154 r)13(e)-3(a)19(t351)]T-0.025 Tw 13(e b)-9(o)11(t)16(w c)-16(a)yt)6(o)6.9(k)-3.9(is e)-3(a)12(t t)-6(b)2(k)-3.9(is e)-3(a)12(k)-3(is e)-3(is e)-