

Recovery of human interferon alpha-2b from recombinant *Escherichia coli* using alcohol/salt-based aqueous two-phase systems

ABSTRACT

The purification of intracellular human recombinant interferon-alpha2b (IFN- 2b) from *Escherichia coli* (*E. coli*) was studied using alcohol/salt aqueous two-phase system (ATPS). The influences of nine biphasic systems comprising alcohol-based top phase (ethanol, 1-propanol and 2-propanol) and salt-based bottom phase (ammonium sulfate, di-potassium hydrogen phosphate and monosodium citrate) on IFN- 2b purification were studied. The results showed that the optimum condition for purification of IFN- 2b was achieved in ATPS composed of 18% (w/w) 2-propanol with 22% (w/w) ammonium sulfate in the presence of 1% (w/w) sodium chloride (NaCl). The purified IFN- 2b recorded a purification factor (PF) of 16.24 with the yield of 74.64%.

Keyword: Aqueous two-phase system; Interferon-alpha2b; Alcohol/salt system; Purification