United States Patent [19]

Veech

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[54] **ELECTROLYTE SOLUTIONS AND IN VITRO USE THEREOF**

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Related U.S. Application Data

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[52] **U.S. Cl.** **435/240;** 435/1; 435/2; 435/241; 435/260; 424/127; 424/128; 424/153; 424/154; 514/23; 514/2

[58] **Field of Search** 435/240, 241, 1, 2, 435/243, 244, 247, 248-250, 260; 424/127, 128, 149, 154, 177, 180, 153; 47/59, 62

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[57] **ABSTRACT**

Processes and compositions are provided for in vitro use in tissue culture media (preferred), perfusion media, and incubation media. Thus, balanced salt solutions are provided wherein the milliequivalent ratio of sodium cations to chloride anions is normalized and wherein optionally at least one near-equilibrium couple is incorporated (bicarbonate$^-$/carbon dioxide, L-lactate$^-$/pyruvate$^-$, and d-betahydroxybutyrate /acetoacetate$^-$. Regulation of intracellular and extracellular pH, and normalization of intracellular redox state and phosphorylation state is achievable.

14 Claims, No Drawings