**ABSTRACT**

E-101 Solution (E-101) is a first-in-class topical myeloperoxidase-mediated formulation developed as an antimicrobial solution for the treatment and control of complex wounds, glucose oxidase (GO) and peroxynitrite (pMO) in an aqueous vehicle. Upon topical application of E-101 solution containing glucose, hydrogen peroxide (H2O2) is produced in situ by GO that drives pMO-dependent oxidation of chloride to hypochlorous acid (HOCI). Once generated, GOHCl in a diffusion-controlled reaction with a second H2O2 molecule to yield singlet oxygen. We evaluated the effect of blood on the performance of E-101 and three commercially available wound cleansers comprised of stabilized organic derivatives of HOCI.

**RESULTS**

E-101 Solution (E-101) is a first-in-class topical myeloperoxidase-mediated antimicrobial wound wash designed for use in hospital and in the home. E-101 is comprised of glucose oxidase (GO), hydrogen peroxide (H2O2), and HOCI. A diffusion-controlled reaction with a second H2O2 molecule to yield singlet oxygen. We evaluated the effect of blood on the performance of E-101 and three commercially available wound cleansers comprised of stabilized organic derivatives of HOCI.

**INTRODUCTION**

E-101 Solution (E-101) is a first-in-class topical myeloperoxidase-mediated formulation developed as an antimicrobial solution for the treatment and control of complex wounds, glucose oxidase (GO) and peroxynitrite (pMO) in an aqueous vehicle. Upon topical application of E-101 solution containing glucose, hydrogen peroxide (H2O2) is produced in situ by GO that drives pMO-dependent oxidation of chloride to hypochlorous acid (HOCI). Once generated, GOHCl in a diffusion-controlled reaction with a second H2O2 molecule to yield singlet molecular oxygen (O2), a metastable electronically excited reactant with a microsecond lifetime (Figure 1). The present study was conducted to measure the performance of E-101 in antimicrobial solutions in the presence of human blood and product matrices.

**METHODS**

E-101 and three predicate antimicrobial solutions were tested against five (S. aureus ATCC 29213, P. aeruginosa ATCC 27853, S. aureus ATCC 43300, E. coli ATCC 25922, and Candida auris CDC 10231) and three (S. aureus ATCC 25922, E. coli ATCC 25922, and Candida auris CDC 10231) of the six test microorganisms.

**CONCLUSIONS**

**REFERENCES**