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Resazurinmicrotitre assay (REMA) for antibacterial and antifungal activity of herbs of three antidiarrhoeal formulations: Bilagyl® and Berbenterone® tablets and Berbenterone® suspension

Vipul Suryavanshi[1], Mehraram Patel[1], Nagesh Sandu[2], Saurabh Chhatre[3] and **Krishnapriya Mohanraj[1]**
[1]Bombay College of Pharmacy, India
[2]Sandu Research Foundation Pvt. Ltd., India
[3]Sandu Pharmaceuticals Ltd., India

Bilagyl®, Berbenterone® tablets and Berbenterone® suspension are Ayurvedic formulations used for antidiarrhoeal therapy. Herbs present in these formulations [*Aegle marmelos (Bilwaphal), Berberis aristata (Daruharida), Punica granatum (Dadimtvak), Holarrhena antidysenterica (Kutajchal), Syzygium aromaticum (Lavang), Myristica fragrans (Jaiphal), Quercus infectoria (Maiphal), Cyperus rotundus (Nagarmotha), Aconitum heterophyllum (Ativisha), Embelia ribes (Vidang)*] were subjected to various extraction procedures and the extracts were investigated by Resazurinmicrotitre assay (REMA) against *Salmonella Typhi, Escherichia coli, Staphylococcus aureus, Shigella flexneri and Candida albicans*. All plants investigated showed anti-infective activity but only certain extracts of the herbs investigated were active. Some extracts showed only antibacterial activity while some extracts showed both antibacterial and antifungal activity. Hexane extract of *Embelia ribes* (Vidang) showed lowest MIC values against *E. coli* (0.190-0.381 µg/ml), *S. flexneri* (0.190-0.381 µg/ml), *S. aureus* (0.190-0.381 µg/ml) and S. Typhi (3-6 µg/ml). Chloroform extract of Myristica fragrans (Jaiphal) and *Quercus infectoria* (Maiphal) showed lowest MIC value against *C. albicans* (24.4-48.8 µg/ml). Ciprofloxacin [MIC values: *E. coli* (0.01-0.02 µg/ml), *S. flexneri* (0.04-0.08 µg/ml), *S. aureus* (0.08-0.16 µg/ml) and S. Typhi (0.04-0.07 µg/ml)] and fluconazole (MIC against *C. albicans* is 4.8-9.7 µg/ml) were used as standard antibacterial and antifungal agents, respectively.

krishnapriyamohanraj@gmail.com

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