

# Askina® Calgitrol® Ag

Type	Improved wound healing	Antimicrobial Activity	Tolerability and Cytotoxicity	Page
In-vitro		●		29

## Assessment of Bactericidal Potential of Askina® Calgitrol® Ag Dressings

Dr Anthony Hayes and Mr Marc Isaacs, Confocal Microscopy and Bioimaging Unit, Cardiff School of Biosciences, Cardiff, UK;  
Report HOSP216 at B. Braun Hospicare

### Objective

To test the bactericidal potential of Askina® Calgitrol® Ag dressings on the following microorganisms: Staphylococcus aureus, Escherichia coli and Candida albicans

### Method

To visualise bacteria and assess their growth characteristics, cell populations were stained using the LIVE/DEAD® Baclight™ bacterial viability kit (Molecular Probes; Invitrogen). The kit consisted of two fluorescent dyes, SYTO 9 (green) and Propidium Iodine (red), pre-aliquoted in sealed plastic pipettes. The bacteria (Candida albicans ATCC2091; Escherichia coli ATCC 8739 and Staphylococcus aureus ATCC 6538P) were stained with the dye mixture and incubated on Askina® Calgitrol® Ag.

When the bacteria are alive or viable they fluorescence green; they change to red if the bacteria wall is damaged; hence dead or dying bacteria are stained red. At specific time intervals (0, 1, 2, 3, 4, 12 & 24 hours) the dressing was observed and scanned using a Leica TCS AOBS confocal laser scanning microscope.

Cell counts for live (green) and dead (red) micro-organisms were performed using Image J Software and were based on 10 images per time point. The values are expressed as percentage viability for each time point.

### Results

After a 12 hour incubation period there were high levels of bacterial mortality, at 24 hours there was close to 100% cell death in all cultures.

### Micro-organism viability (%) on Askina® Calgitrol® Ag dressings

	0hrs	1 hr	2 hrs	3 hrs	4 hrs	12 hrs	24 hrs
C. Albicans	97.73	97.69	92.6	83.67	56.91	46.22	0
E. Coli	89.71	76.5	79.19	56.35	43.01	27.36	5.43
S. Aureus	100	100	99.27	99.1	95.17	76.7	0.55

### Conclusion

Askina® Calgitrol® Ag wound dressings are able to immobilize bacteria within a 24 hour period.