

# BJM ROOT CANAL SEALER™

Two-paste epoxy-amine resin root canal sealer



IABT incorporation into dental polymers prevents bacterial growth and biofilm formation.

## INDICATIONS

- Obturation of root canals together with gutta-percha points.

## PROPERTIES

- Extremely High radiopacity.
- Excellent wettability and flow properties.
- Outstanding sealing ability.
- IABT Antibacterial technology.
- Non-cytotoxic.
- Long-term stability.
- Moderate flexibility that prevents cracking of fully cured material.
- Low shrinkage.
- Automix Syringe - Saves application time; guarantees consistent mix.

## TECHNICAL DATA

BJM RCS will set within 48 hours at 37°C

Shelf Life 2 Years

## SCIENTIFIC PAPERS

1. Antibacterial mechanism of novel endodontic sealer, D. Kesler Shvero, N. Zaltsman, E. Weiss, N. Beyth, Hadassah School of Dental Medicine, Hebrew University, IADR Israeli Division Meeting, Tel-Aviv, June 2013.
2. Root canal sealers as Biofilm prevention: facts and speculations, M. Solomonov, Эндодонтия, Том VII, No. 1-2, 2014.
3. Antibiofilm Activity of Epoxy Sealer with Quaternary Ammonium Macromolecule, T. Becker, M. Solomonov, N. Sterer, R. Bar-Ness, A. Levin, A. Shemesh, The Maurice and Gabriela Goldschleger School of Dental Medicine Tel Aviv University, Program Number 0219, PER-IADR Congress, Jerusalem, Israel, 2016.

## PACKAGING & ORDER INFORMATION

### • Item # 400200

1 Automix Syringe 5 ml of BJM RCS

10 Automix Syringe Mix Tips and Intra Oral Tips

1 Mixing Pad



**BJM LAB**

**Session Title: 0219**

**Antibiofilm Activity of Epoxy Sealer With Quaternary Ammonium Macromolecule**

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**Results:** Biofilm Formation assay showed significant reductions in de-novo biofilm formation of 25 and 72% in the higher Ammonium particle concentrations of 1.6 and 3.3% w/v respectively ( $p < 0.001$  for both). Biofilm Viability assay showed significant reductions in existing biofilm viability of 20 and 36% in the higher Ammonium particle concentrations of 1.6 and 3.3% w/v respectively ( $p < 0.001$  for both).

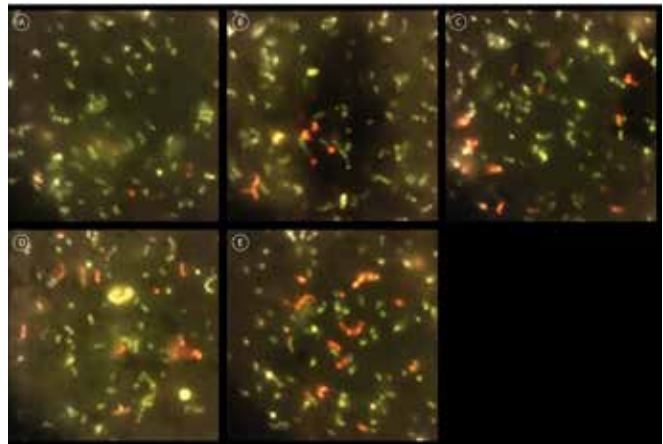
*Tal Becker, The Maurice and Gabriela Goldschleger School of Dental Medicine Tel Aviv University*



**Abstract:**

**Objectives:** This study evaluated the in vitro antibacterial effect of Epoxy sealer, **BJM ROOT CANAL SEALER**® (BJM Laboratories Ltd., Or-Yehuda, Israel), incorporated with quaternary Ammonium macromolecule (BIOSAFE HM4100, BIOSAFE Inc., Pittsburg, PA, USA) against existing biofilm of *Enterococcus faecalis* and its ability to inhibit de-novo biofilm formation of *Enterococcus faecalis*.

**Methods:** Six mm diameter discs (3mm thickness) of epoxy sealer (BJM) incorporated with various concentrations of immobilized Ammonium particles (0.4, 0.8, 1.6, and 3.3% w/v) or without any addition (as control), were prepared. Antibacterial effect of the above discs on de-novo biofilm formation (*E. faecalis*) was tested by Biofilm Formation assay. Antibacterial effect of the discs on existing biofilm was tested by Biofilm Viability assay: The Live/Dead bacterial ratio was determined using fluorescence microscopy.



*Fluorescence microscopy images of live (green) and dead (red-orange) bacteria in various concentrations of quaternary ammonium incorporated epoxy discs: (A) Control group (0%). (B) 0.4% w/v. (C) 0.8% w/v. (D) 1.6% w/v. (E) 3.3% w/v.*

**Conclusions:** Quaternary Ammonium macromolecule incorporated in epoxy root canal sealer discs showed a pronounced reduction of de-novo biofilm formation in the higher concentrations (1.6 and 3.3% w/v), as well as some antibacterial effect against existing biofilm of *E. faecalis*. This may be effective for prevention of de-novo formation of bacterial biofilm in treated root canals.

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