Bruker Microbiology & Infection Diagnostics

IR Biotyper® Publications

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General Publications

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

Diagnostic Microbiology & Infectious Disease, 10 March 2025

https://doi.org/10.1016/j.diagmicrobio.2025.116798

Bloodstream infections by multidrug-resistant *Pluralibacter gergoviae* in premature neonates in Central-West Brazil: Report of two cases

CT Flores de Oliveira, B Abdul Ahad Saad, ML Gonçalves Galiz Lacerda, B Stavis Conte, SM do Valle Leone de Oliveira, J Venturini, AM Miranda Paniago, RV da Silva Lage de Miranda, T Bernardo Valadão, L Veloso da Costa, GV Dias Souza, D Ribeiro de Souza Santos, SJ Forsythe, CE Volpe-Chaves, ML Lima Brandão

Diagnostic Microbiology and Infectious Disease, 30 December 2024

https://doi.org/10.1016/j.diagmicrobio.2024.116676

The IR Biotyper as a tool for typing organisms of significance for hospital epidemiology- A subject review

Al-Fraihat E., Barker K. R. & Tadros M.

Methods and Protocols, 11 June 2024

https://doi.org/10.3390/mps7030048

A Comprehensive Methodology for Microbial Strain Typing Using Fourier-Transform Infrared Spectroscopy

Muchaamba F. & Stephan R.

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Journal of Clinical Microbiology, 3 October 2023

https://doi.org/10.1128/jcm.00347-23

Evaluation of Fourier transform-infrared spectroscopy (FT-IR) as a control measure for nosocomial outbreak investigations

Uribe G., Salipante S. J., Curtis L., Lieberman J. A., Kurosawa K., Cookson B. T., Hoogestraat D., Stewart M. K., Olmstead T., Bourassa L.

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Publications on *Acinetobacter* spp.

American Journal of Infection Control, 29 November 2024

https://doi.org/10.1016/j.ajic.2024.11.019

Nosocomial outbreak due to a novel Sequence Type of carbapenem-resistant *Acinetobacter seifertii*

Barth PO, Pereira DC, de Oliveira GS, Konkewicz LR, Lutz L, Matos WL, Mott MP, Constante CC, Wilhelm CM, Antochevis LC, Paiva RM, Tragnago KF, Barth AL, Martins AF.

Journal of Hospital Infection, 4 January 2024

https://doi.org/10.1016/j.jhin.2024.01.002

An outbreak with multidrug-resistant *Acinetobacter baumannii* on a burn ICU and its control with multifaceted containment measures

Obenhuber T., Scheier T. C., Stutz T., Hug M., Fontein D., Kaiser A., Schoene S., Steiger P., Brugger S. D., Zingg W., Schreiber P. W.

Journal of Clinical Microbiology, 3 October 2023

https://doi.org/10.1128/jcm.00347-23

Evaluation of Fourier transform-infrared spectroscopy (FT-IR) as a control measure for nosocomial outbreak investigations

Uribe G., Salipante S. J., Curtis L., Lieberman J. A., Kurosawa K., Cookson B. T., Hoogestraat D., Stewart M. K., Olmstead T., Bourassa L.

Brazi J Microbiol. 23 May 2022

https://doi.org/10.1007/s42770-022-00774-6

Fourier transform infrared spectroscopy as a new tool for surveillance in local stewardship antimicrobial program: a retrospective study in a nosocomial *Acinetobacter baumannii* outbreak

Guerrero-Lozano I, Galán-Sánchez F, Rodríguez-Iglesias M.

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Infection Control & Hospital Epidemiology, 10 May 2022

https://doi.org/10.1017/ice.2022.109

Analysis of four carbapenem-resistant *Acinetobacter baumannii* outbreaks using Fourier-transform infrared spectroscopy

H Kon, E Temkin, P Elmalih, A Keren-Paz, D Ben-David, R Najjar-Debbiny, T Gottesman and Y Carmeli

Future Microbiology, 22 October 2021

https://doi.org/10.2217/fmb-2020-0276

Application of Fourier transform infrared spectroscopy for real-time typing of *Acinetobacter baumannii* outbreak in intensive care unit

Lombardo D, Cordovana M, Deidda F, Pane M, Ambretti S.

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Publications on *Bacillus* spp.

Microorganisms, February 2026

https://doi.org/10.3390/microorganisms14020434

Discrimination of Bacteria Belonging to *Bacillus cereus* Group at Species Level by Fourier Transform Infrared Spectroscopy

V Manzulli, M Cordovana, D Farina, M Caruso, R Fraccalvieri, L Serrecchia, L Pace, V Rondinone, A Bianco, L Capozzi, C Ortello, D Cipolletta and D Galante

International Journal of Food Microbiology, 24 November 2025

https://doi.org/10.1016/j.ijfoodmicro.2025.111550

Employing Fourier-transform infrared spectroscopy as dereplication strategy in foodborne outbreak investigation of cereulide-producing *Bacillus cereus*

B Jacobs, J Masquelier, T Van Nieuwenhuysen, L Delbrassinne, K Van Hoorde

Microorganisms, 12 January 2024

https://doi.org/10.3390/microorganisms12010183

Application of Fourier Transform Infrared Spectroscopy to Discriminate Two Closely Related Bacterial Species: *Bacillus anthracis* and *Bacillus cereus* Sensu Stricto

Manzulli V., Cordovana M., Serrecchia L., Rondinone V., Pace L., Farina D., Cipolletta D., Caruso M., Fraccalvieri R., Difato L. M., Tolve F., Vetritto V., Galante D.

Curr Microbiol, 21 July 2020

https://doi.org/10.1007/s00284-020-02129-6

Prevalence and Characteristics of *Bacillus cereus* Group Isolated from Raw and Pasteurised Milk

Radmehr B, Zaferanloo B, Tran T, Beale DJ, Palombo EA

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Publications on *Candidozyma (Candida)* spp.

Ann Lab Med, July 2026

https://doi.org/10.3343/alm.2026.0156

Development and Validation of AurisC2-ID, a Fourier-Transform Infrared Spectroscopy Classifier for Differentiation of Clade II and Non-Clade II *Candida auris* Isolates

Kwon YJ, Kim J, Choi H, Kang M, Jeon Y, Kim TY, Won EJ.

J Microbial Methods, March 2026

https://doi.org/10.1016/j.mimet.2026.107405

Strain-level typing of *Candida albicans* and *Saccharomyces cerevisiae* using Fourier transform infrared spectroscopy and whole-genome sequencing

A Kashiwaba, A Mitani, T Sonoda, N Shigemune, H Takahashi

Journal of Hospital Infection, 04 July 2025

https://doi.org/10.1016/j.ajic.2025.11.008

Genotyping of *Candida tropicalis* isolates uncovers nosocomial transmission of two lineages in Italian tertiary care hospital

B. Spruijtenburg, E. De Carolis, C. Magri,.F. Meis, M. Sanguinetti, T. de Groot, E.F.J. Meijer

American Journal of Infection Control, 04 July 2025

https://doi.org/10.1016/j.ajic.2025.11.008

Evaluation of the IR Biotyper for *Candida parapsilosis* typing in hospital surveillance

PC. Liccardo, L Monpierre, I Valsecchi, F Cizeaux, JW Decousser, F Botterel

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Mycoses, 04 July 2025

https://doi.org/10.1111/myc.70085

Clade Distinction and Tracking of Clonal Spread by Fourier-Transform Infrared Spectroscopy in Multicenter *Candida (Candidozyma) auris* Outbreak

de Melo C. C., de Oliveira H. L. N. L., Souza B. R., Moura C. V. R., Oliveira R., Bastos R. W., Kemmerich K. K., de Almeida-Junior J. N., Colombo A. L., Spruijtenburg B., Meis J. F., Le Pape P., Moonen C. G. J. & de Lima-Neto R. G.

Microorganisms, 26 October 2024

https://doi.org/10.3390/microorganisms12112153

"CLADE-FINDER": *Candida auris* Lineage Analysis Determination by Fourier Transform Infrared Spectroscopy and Artificial Neural Networks

Magri C., De Carolis E., Ivagnes V., Di Pilato V., Spruijtenburg B., Marchese A., Meijer E. F. J., Chowdhary A. & Sanguinetti M.

Journal of Hospital Infection, 18 October 2024

https://doi.org/10.1016/j.jhin.2024.10.003

Genotyping of *Candida tropicalis* isolates uncovers nosocomial transmission of two lineages in Italian tertiary care hospital

B. Spruijtenburg, E. De Carolis, C. Magri, J.F. Meis, M. Sanguinetti, T. de Groot & E.F.J. Meijer

Microorganisms, 27 June 2024

https://doi.org/10.3390/microorganisms12071312

Fourier Transform Infrared Spectroscopy Application for *Candida auris* Outbreak Typing in a Referral Intensive Care Unit: Phylogenetic Analysis and Clustering Cut-Off Definition

Curtoni A., Pastrone L., Cordovana M., Bondi A., Piccinini G., Genco M., Bottino P., Polizzi C., Cavallo L., Mandras N., Corcione S., Montrucchio G., Brazzi L. & Costa C.

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Antimicrobial Stewardship & Healthcare Epidemiology, 16 May 2024

https://doi.org/10.1017/ash.2024.77

A cluster of *Candida parapsilosis* displaying fluconazole-trailing in a neonatal intensive care unit successfully contained by multiple infection-control interventions

Hiroaki Baba, Hajime Kanamori, Asami Nakayama, Takami Sato, Makoto Katsumi, Takae Chida, Shinobu Ikeda, Rio Seki, Teppei Arai, Katsuhiko Kamei and Koichi Tokuda

Frontiers in Cellular and Infection Microbiology, August 2022

https://doi.org/10.3389/fcimb.2022.887754

Surveillance diagnostic algorithm using real-time PCR assay and strain typing method development to assist with the control of *C. auris* amid COVID-19 pandemic

Deisy A. Contreras and Margie A. Morgan

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Publications on *Clostridioides (Clostridium)* spp.

Journal of Microbiological Methods, 10 August 2025

https://doi.org/10.1016/j.mimet.2025.107230

Fourier transform infrared spectroscopy as a new tool to investigate *Clostridioides difficile* outbreaks: A proof-of-concept study

K Locher, W Chan, SD Chorlton , NP Gauthier, CR Belanger, B Velapatino, AR Manges, A Hadzic, MK Charles

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Publications on *Elizabethkingia* spp.

European Journal of Clinical Microbiology & Infectious Diseases, 14 February 2024

https://doi.org/10.1007/s10096-024-04764-4

Characterization of an outbreak caused by *Elizabethkingia miricola* using Fourier-transform infrared (FTIR) spectroscopy

Rodríguez-Temporal D., García-Cañada J. E., Candela A., Oteo-Iglesias J., Serrano-Lobo J., Pérez-Vázquez M., Rodríguez-Sánchez B., Cercenado E.

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Publications on *Enterobacter* spp.

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

MicrobiologyOpen, February 2026

https://doi.org/10.1002/mbo3.70218

Rapid Typing of Extended-Spectrum β-Lactamase (ESBL)- and Metallo-β-Lactamase (MBL)-Producing Enterobacterales Using Fourier Transform Infrared (FT-IR) Spectroscopy

Y Kawamoto, K Kosai, M Murata, K Ota, F Mitsumoto-Kaseida, N Kaku, H Hasegawa, K Izumikawa, H Mukae, K Yanagihara

Antimicrobial Resistance & Infection Control, 23 December 2025

https://link.springer.com/article/10.1186/s13756-025-01684-6

Evaluation of IR BIOTYPER® as a new tool for *Enterobacter cloacae complex* typing and its potential in management of nosocomial infections

L Pérez Rodríguez, JG García, V García Casas, A Vázquez Blanquiño, A Alberola Romano, E Recacha, I Portillo Calderón, N Chueca & F García

European Journal of Clinical Microbiology & Infectious Diseases

https://doi.org/10.1007/s10096-025-05282-7

***Enterobacter cloacae* complex taxonomic incongruence may lead to misidentification of outbreaks and hinder infection control in real time**

E. Kaplan, M.N. Lurie-Weinberger, O. Kastel, A. Cohen, D. Schwartz, A. Keren-Paz,·Y. Carmeli

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Journal of Hospital Infection, 30 November 2021

https://doi.org/10.1016/j.jhin.2021.11.017

Nosocomial outbreak of monoclonal VIM carbapenemase-producing *Enterobacter cloacae* complex in an intensive care unit during the COVID-19 pandemic: an integrated approach

C. Mullié, D. Lemonnier, C.C. Adjidé, J. Maizel, G. Mismacque, A. Cappe, T. Carles, M. Pierson-Marchandise, Y. Zerbib

Front. Microbiol, 6 November 2019

https://doi.org/10.3389/fmicb.2019.02582

Fourier-Transform Infrared (FTIR) Spectroscopy for Typing of Clinical *Enterobacter cloacae* Complex Isolates

Vogt S, Löffler K, Dinkelacker AG, Bader B, Autenrieth IB, Peter S, Liese J

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Publications on *Enterococcus* spp.

Journal of Global Antimicrobial Resistance, 27 March 2024

https://doi.org/10.1016/j.jgar.2024.03.004

When it rains it pours: an increased prevalence of intestinal carriage of vancomycin-resistant *Enterococcus faecium* related to higher use of oral vancomycin in a tertiary care Hungarian clinical center during the years of the COVID-19 pandemic

Orosz L.

Microbiology Spectrum, 5 March 2024

https://doi.org/10.1128/spectrum.04119-23

Comparative analysis of IR-Biotyper, MLST, cgMLST, and WGS for clustering of vancomycin-resistant *Enterococcus faecium* in a neonatal intensive care unit

Park S., Ryoo N.

Microbiology Spectrum, 22 September 2023

https://doi.org/10.1128/spectrum.00984-23

Fourier-transform infrared spectroscopy for typing of vancomycin-resistant *Enterococcus faecium*: performance analysis and outbreak investigation

Scheier T. C., Franz J., Boumasmoud M., Andreoni F., Chakrakodi B., Duvnjak B., Egli A., Zingg W., Ramette A., Wolfensberger A., Kouyos R. D., Brugger S. D.

Journal of Microbiological Methods, 8 November 2022

https://doi.org/10.1016/j.mimet.2022.106603

Comparison of FT-IR with whole-genome sequencing for identification of maternal-to-neonate transmission of antibiotic-resistant bacteria

Azrad M, Matok LA, Leshem T and Peretz A

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Publications on *Escherichia* spp.

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

Antimicrobial Resistance & Infection Control, 21 April 2025

https://doi.org/10.1186/s13756-025-01546-1

Use of a national repository of Fourier-transform infrared spectroscopy spectra enables fast detection of silent outbreaks and prevention of spread of new antibiotic-resistant sequence types

Lurie-Weinberger M. N., Temkin E., Kastel O., Bechor M., Bychenko-Banyas D., Efrati-Epchtien R., Levi G. D., Rakovitsky N., Keren-Paz A., Carmeli Y. & Antimicrobial Resistance Surveillance Group

Avian Pathology, 11 April 2024

https://doi.org/10.1080/03079457.2024.2334683

Interference between *Escherichia coli* genotypes from the *E. coli* peritonitis syndrome given simultaneously to productive SPF White Leghorn hens by intratracheal inoculation

Landman W. J. M., van Eck J. H. H. & Heuvelink A. E.

Journal of Clinical Microbiology, 3 October 2023

https://doi.org/10.1128/jcm.00347-23

Evaluation of Fourier transform-infrared spectroscopy (FT-IR) as a control measure for nosocomial outbreak investigations

Uribe G., Salipante S. J., Curtis L., Lieberman J. A., Kurosawa K., Cookson B. T., Hoogestraat D., Stewart M. K., Olmstead T., Bourassa L.

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Annals of Laboratory Medicine, March 2023

https://doi.org/10.3343/alm.2023.43.2.174

Performance Comparison Between Fourier-Transform Infrared Spectroscopy–based IR Biotyper and Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry for Strain Diversity

Son Young Jun, Young Ah Kim, Suk-Jun Lee, Woon-Won Jung, Hyun-Sook Kim, Sung-Soo Kim, Hyunsoo Kim, Dongeun Yong, Kyungwon Lee

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Publications on *Klebsiella* spp.

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

MicrobiologyOpen, February 2026

https://doi.org/10.1002/mbo3.70218

Rapid Typing of Extended-Spectrum β-Lactamase (ESBL)- and Metallo-β-Lactamase (MBL)-Producing Enterobacterales Using Fourier Transform Infrared (FT-IR) Spectroscopy

Y Kawamoto, K Kosai, M Murata, K Ota, F Mitsumoto-Kaseida, N Kaku, H Hasegawa, K Izumikawa, H Mukae, K Yanagihara

Journal of Microbiological Methods, 3 December 2025

https://doi.org/10.1016/j.mimet.2025.107355

Fourier-transform infrared spectroscopy reliably differentiates *Klebsiella pneumoniae* outbreak isolates

M Cordovana, M Kostrzewa, JA Bohnert, E Eger, NO Hübner, K Becker, K Schaufler, SE Heiden, EA Idelevich

Microbiology Spectrum, 6 October 2025

https://doi.org/10.1128/spectrum.01146-25

Use of IR Biotyper as a feasible methodology to type *Klebsiella pneumoniae*

PO Barth, C Mörschbächer Wilhelm, D Castro Pereira, L Czekster Antochevis, A Francisco Martins, AL Barth

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Journal of Antimicrobial Chemotherapy, 31 May 2025

https://doi.org/10.1093/jac/dkaf170

Real-time FT-IR typing of *Klebsiella pneumoniae*: a flexible and rapid approach for outbreak detection and infection control

Goncalves A. B., Alves V., Neves I., Read A., Pinheiro N., Henius A. E., Hasman H., Peixe L. & Novais A.

Journal of Hospital Infection, 19 May 2025

https://doi.org/10.1016/j.jhin.2025.05.003

Characterization of a nosocomial outbreak caused by VIM-1 *Klebsiella michiganensis* using Fourier-Transform Infrared (FT-IR) Spectroscopy

Rodriguez-Temporal D., Sánchez-Cueto M., Buenestado-Serrano S., Blázquez-Sánchez M., Cercenado E., Gutiérrez-Pareja M., Molero-Salinas A., López-Camacho E., Muñoz P., García de Viedma D., Pérez-Lago L. & Rodríguez-Sánchez B.

Antimicrobial Resistance & Infection Control, 21 April 2025

https://doi.org/10.1186/s13756-025-01546-1

Use of a national repository of Fourier-transform infrared spectroscopy spectra enables fast detection of silent outbreaks and prevention of spread of new antibiotic-resistant sequence types

Lurie-Weinberger M. N., Temkin E., Kastel O., Bechor M., Bychenko-Banyas D., Efrati-Epchtien R., Levi G. D., Rakovitsky N., Keren-Paz A., Carmeli Y. & Antimicrobial Resistance Surveillance Group

Journal of Clinical Microbiology, 27 November 2024

https://doi.org/10.1128/jcm.01122-24

Multicenter evaluation of Fourier transform infrared (FTIR) spectroscopy as a first-line typing tool for carbapenemase-producing Klebsiella pneumoniae in clinical settings

Candela A, Rodríguez-Temporal D, Lumbreras P, Guijarro-Sánchez P, Arroyo MJ, Vázquez F, Beceiro A, Bou G, Muñoz P, Oviaño M, Fernández J, Rodríguez-Sánchez B.

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Frontiers in Microbiology, 20 March 2024

https://doi.org/10.3389/fmicb.2024.1396367

Corrigendum: Rapid typing of *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* by Fourier-transform Infrared spectroscopy informs infection control in veterinary settings

Zendri F., Schmidt V., Mauder N., Loeffler A., Jepson R. E., Isgren C., Pinchbeck G., Haldenby S. & Timofte D.

Journal of Microbiological Methods, 8 November 2022

https://doi.org/10.1016/j.mimet.2022.106603

Comparison of FT-IR with whole-genome sequencing for identification of maternal-to-neonate transmission of antibiotic-resistant bacteria

Azrad M, Matok LA, Leshem T and Peretz A

Microb. Biotechnol, 18 November 2020

https://doi.org/10.1111/1751-7915.13709

Evaluation of the IR Biotyper for *Klebsiella pneumoniae* typing and its potentials in hospital hygiene management

Hu Y, Zhou H, Lu J, Sun Q, Liu C, Zeng Y, Zhang R

J Clin Microbiol, 23 April 2020

https://doi.org/10.1128/JCM.00098-20

Fourier Transform Infrared Spectroscopy Is a New Option for Outbreak Investigation: a Retrospective Analysis of an Extended-Spectrum-Beta-Lactamase-Producing *Klebsiella pneumoniae* Outbreak in a Neonatal Intensive Care Unit

Rakovitsky N, Frenk S, Kon H, Schwartz D, Temkin E, Solter E, Paikin S, Cohen R,4, Schwaber MJ, Carmeli Y, Lellouche J

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J Clin Microbiol, 25 Oct 2018

https://doi.org/10.1128/JCM.00843-18

Typing and species identification of clinical *Klebsiella* isolates by Fourier- transform infrared (FTIR) spectroscopy and matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry.

Dinkelacker AG, Vogt S, Oberhettinger P, Mauder N, Rau J, Kostrzewa M, Rossen JWA, Autenrieth IB, Peter S, Liese J

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Publications on lactic acid bacteria

Spectroscopy Journal, June 2026

https://doi.org/10.3390/spectroscj4030013

Selective Enumeration and Identification of a Multi-Strain Probiotic Consortium Using Fourier Transform Infrared Spectroscopy Paired with Plate Count: A Proof-of-Concept Study

Deidda F, Cordovana M, Morazzoni C, Allesina S, Calgaro M, Vitulo N, Bausani M, Pane M

Applied Microbiology and Biotechnology, 10 July 2025

https://doi.org/10.1007/s00253-025-13550-x

Application of MALDI-TOF MS and FT-IR spectroscopy in identification and antibiotic resistance profiling of lactic acid bacteria

Kocsis T., Győrffy A. & Pomazi A.

Frontiers in Microbiology, 8 December 2022

https://doi.org/10.3389/fmicb.2022.1052420

In-process real-time probiotic phenotypic strain identity tracking: The use of Fourier transform infrared spectroscopy

Francesca Deidda, Miriam Cordovana, Nicole Bozzi Cionci, Teresa Graziano, Diana Di Gioia and Marco Pane

Frontiers in Microbiology, 24 March 2022

https://doi.org/10.3389/fmicb.2022.823120

Evaluation of IR Biotyper for *Lactiplantibacillus plantarum* Typing and Its Application Potential in Probiotic Preliminary Screening

Li X, Zhu L, Wang X, Li J, Tang B.

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Publications on *Legionella* spp.

European Journal of Clinical Microbiology & Infectious Diseases, 20 February 2024

https://doi.org/10.1007/s10096-024-04781-3

Evaluating Fourier-transform infrared spectroscopy with IR Biotyper as a faster and simpler method for investigating the sources of an outbreak of legionellosis

Naoki Nakajima, Michio Jinnai, Shinji Izumiyama & Toshiro Kuroki

Frontiers in Microbiology, 13 April 2023

https://doi.org/10.3389/fmicb.2023.1150942

A multi-center validation study on the discrimination of *Legionella pneumophila* sg.1, *Legionella pneumophila* sg. 2-15 and *Legionella* non-pneumophila isolates from water by FT-IR spectroscopy

Tata A., Marzoli F., Cordovana M., Tiengo A., Zacometti C., Massaro A., Barco L., Belluco S., Piro R.

Frontiers in Microbiology, 26 April 2022

https://doi.org/10.3389/fmicb.2022.866426

Use of Fourier-Transform Infrared Spectroscopy with IR Biotyper® System for *Legionella pneumophila* Serogroups Identification

Pascale MR, Bisognin F, Mazzotta M, Girolamini L, Marino F, Dal Monte P, Cordovana M, Scaturro M, Ricci ML, Cristino S.

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Publications on *Listeria* spp.

Frontiers in Microbiology, February 2026

https://doi.org/10.3389/fmicb.2026.1735218

Fourier transform infrared spectroscopy enables rapid strain typing and cluster analysis of *Listeria monocytogenes* under diverse growth conditions

F Muchaamba, MJA Stevens, R Stephan

International Journal of Food Microbiology, 29 October 2024

https://doi.org/10.1016/j.ijfoodmicro.2024.110954

Nisin resistance is increased through GtcA mutation-induced loss of cell wall teichoic acid *Nacetylglucosamine* modifications in *Listeria monocytogenes*

Toruvandepi Mandinyenya, Joseph Wambui, Francis Muchaamba, Marc J.A. Stevens, Taurai Tasara

Methods and Protocols, 11 June 2024

https://doi.org/10.3390/mps7030048

A Comprehensive Methodology for Microbial Strain Typing Using Fourier-Transform Infrared Spectroscopy

Muchaamba F. & Stephan R.

Clinical Spectroscopy, 27 October 2023

https://doi.org/10.1016/j.clispe.2023.100030

Validated differentiation of *Listeria monocytogenes* serogroups by FTIR spectroscopy using an Artificial Neural Network based classifier in an accredited official food control laboratory

Oberreuter H., Dyk M., Rau J.

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Publications on *Mycobacterium* spp.

One Health, June 2026

https://doi.org/10.1016/j.onehlt.2026.101356

Discrimination between *Mycobacterium tuberculosis* and *Mycobacterium bovis* using Fourier transform infrared spectroscopy

K.B. Guterres,T.T. Silva-Pereira,R. Oliveira, C.G.J. Moonen, M.B. Heinemann, F. Araújo, M. Palaci, G. Oliveira de Souza, N. Silveira Guimarães,A.M. Sá Guimarães

Journal of Microbiological Methods, 28 July 2023

https://doi.org/10.1016/j.mimet.2023.106792

Application of FT-IR Spectroscopy for *Mycobacterium abscessus* complex subspecies differentiation

Curtoni A., Cordovana M., Bondi A., Scaiola F., Criscione G., Ghibaudo D., Pastrone L., Zanotto E., Camaggi A., Caroppo M. S., Kostrzewa M., Cavallo R., Costa C.

Microbiology Spectrum, October 2022

https://doi.org/10.1128/spectrum.02893-22

Investigating the Origin of *Mycobacterium chimaera* Contamination in Heater-Cooler Units: Integrated Analysis with Fourier Transform Infrared Spectroscopy and Whole-Genome Sequencing

F. Bisognin, F. Messina, O. Butera, C. Nisii, A. Mazzarelli, S. Cristino, M. R. Pascale, G. Lombardi, A. Cannas, P. Dal Monte

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Publications on *Pseudomonas* spp.

Int J Mol Sci, June 2026

https://doi.org/10.3390/ijms27146452

FT-IR Spectroscopy to Discriminate Old from New *Pseudomonas aeruginosa* Infections in People with Cystic Fibrosis

Rossitto M, Raimondi S, Fox V, Tuccio Guarna Assanti V, Essa N, Lepanto M.S, Cristiano M, Cortazzo V, Agosta M, Majo F, Cutrera R, Perno CF, Bernaschi P, & Vrenna G

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

Pathogens, February 2026

https://doi.org/10.3390/pathogens15020189

Integrated FTIR and Whole-Genome Sequencing Reveal Scale-Dependent Genotype–Phenotype Relationships in Multidrug-Resistant *Pseudomonas aeruginosa*

G Lengyel, E Kaszab, E Fehér, S Marton, L Orosz, Á Sarkadi-Nagy, K Burián and K Bányai

Processes, 9 January 2026

https://doi.org/10.3390/pr14020231

Phenotypical and Molecular Characterization of *Pseudomonas* spp. Isolated from a Pharmaceutical Facility

L Vasconcellos, S Verly da Silva, L Veloso da Costa, RV da Silva Lage de Miranda, C Silva, V Midlej, CA Chaia de Miranda, SJ Forsythe, MH Simões Villas Bôas and ML Lima Brandão

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Life, 29 August 2024

https://doi.org/10.3390/life14091079

Evaluation of Antimicrobial Resistance Patterns of *Pseudomonas aeruginosa* Strains Isolated among COVID-19 Patients in Brazil Typed by Fourier-Transform Infrared Spectroscopy

PA de Souza, MC Silva dos Santos , RV da Silva Lage de Miranda, LV da Costa, RP Paschoal da Silva, CA Chaia de Miranda, AP Roque da Silva, SJ Forsythe, MH Simões Villas Bôas and ML Lima Brandão

Frontiers in Microbiology, 20 March 2024

https://doi.org/10.3389/fmicb.2024.1396367

Corrigendum: Rapid typing of *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* by Fourier-transform Infrared spectroscopy informs infection control in veterinary settings

Zendri F., Schmidt V., Mauder N., Loeffler A., Jepson R. E., Isgren C., Pinchbeck G., Haldenby S. & Timofte D.

Transboundary and Emerging Diseases, 7 September 2023

https://doi.org/10.1155/2023/8649429

Rapid Discrimination of *Pseudomonas aeruginosa* ST175 Isolates Involved in a Nosocomial Outbreak Using MALDI-TOF Mass Spectrometry and FTIR Spectroscopy Coupled with Machine Learning

Candela A., Arroyo M.J., Sánchez-Cueto M., Marín M., Cercenado E., Méndez G., Muñoz P., Mancera L., Rodríguez-Temporal D. and Rodríguez-Sánchez B.

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Publications on *Salmonella* spp.

Frontiers in Microbiology, July 2026

https://doi.org/10.3389/fmicb.2026.1847592

Fourier-transform infrared spectroscopy with machine learning for rapid O-serogrouping and typhi differentiation of clinical *Salmonella* isolates

Suleiman M, Morales P, Ilagan E, Cordovana M, Pfeiffer R and Pérez-López A

Pathogens, 28 August 2025

https://doi.org/10.3390/pathogens14090856

AI-Enhanced FT-IR Spectroscopy: Evaluation of a Novel Tool for High-Throughput Serovar Typing of *Salmonella enterica* subsp. *enterica* in Croatia

M. Dopud, S. Šuto, D. Tomaškovic, L. Hlebic, L. Peinovic, S. Špicic, M. Zdelar Tuk, I. Reil , A. Humski, G. Kompes, S. Šoprek Strugar, B. Papic, J. Avberšek, A. Mikolajczak and S. Duvnjak

Microbiology Spectrum, 27 May 2025

https://doi.org/10.1128/spectrum.00159-25

Development of a robust FT-IR typing system for *Salmonella enterica*, enhancing performance through hierarchical classification

Fredes-García D., Jiménez-Rodríguez J., Piña-Iturbe A., Caballero-Díaz P., González-Villarroel T., Dueñas F., Wozniak A., Adell A. D., Moreno-Switt A. I. & García P.

bioRxiv, 18 March 2025

https://doi.org/10.1101/2025.03.18.643663

Establishment and Thorough External Validation of a FTIR Spectroscopy Classifier for *Salmonella* Serogroup Differentiation

Helene Oberreuter, Miriam Cordovana, Martin Dyk & Jörg Rau

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One Health, 6 March 2025

https://doi.org/10.1016/j.onehlt.2025.101004

Rapid serotype-independent differential detection of biofilm-positive and biofilm-negative *Salmonella* using Fourier transform infrared biotyping

Asmita Shrestha, Smriti Shringi & Devendra H. Shah

Heliyon, 6 March 2024

https://doi.org/10.1016/j.heliyon.2024.e27402

Strain typing and antimicrobial susceptibility of *Salmonella enterica* Albany isolates from duck farms in South Korea

Han M., Chae M., Lee S., No K. & Han S.

Transfusion, 7 March 2023

https://doi.org/10.1111/trf.17306

Successful autologous hematopoietic stem cell transplants using *Salmonella* positive products collected from asymptomatic donors

Phou S., Perez-Alvarez I., Morgan M., Contreras D. A., Ben-Aderet M., Gaddam E., Paquette R., Vescio R., Pepkowitz S. H., Gibb D. R., Zabner R., Klapper E. B.

Journal of Microbiological Methods, October 2022

https://doi.org/10.1007/s42770-022-00774-6

Machine learning-based typing of *Salmonella enterica* O-serogroups by the Fourier-Transform Infrared (FTIR) Spectroscopy-based IR Biotyper system

Cordovana M, Mauder N, Join-Lambert O, Gravey F, LeHello S, Auzou M, Pitti M, Zoppi S, Buhl M, Steinmann J, Frickmann H, Dekker D, Funashima Y, Nagasawa Z, Soki J, Orosz L, Veloo AC, Justesen US, Holt HM, Liberatore A, Ambretti S, Pongolini S, Soliani L, Wille A, Rojak S, Hagen RM, May J, Pranada AB, Kostrzewa M

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Microorganisms, 15 April 2021

https://doi.org/10.3390/microorganisms9040853

Classification of *Salmonella enterica* of the (Para-)Typhoid Fever Group by Fourier-Transform Infrared (FTIR) Spectroscopy

Cordovana M, Mauder N, Kostrzewa M, Wille A, Rojak S, Hagen R.M, Ambretti S, Pongolini S, Soliani L, Justesen U.S, Holt H.M, Join-Lambert O, Hello S.L, Auzou M, Veloo A.C, May J, Frickmann H, Dekker D

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Publications on *Staphylococcus* spp.

Microbiology Spectrum, April 2026

https://doi.org/10.1128/spectrum.03245-25

Evaluating the performance of Fourier transform infrared spectroscopy for typing and outbreak investigation of methicillin-resistant and -susceptible *Staphylococcus aureus*

Silvola J, Harju I, Kallonen T, Gröndahl-Yli-Hannuksela K, Kanerva M, Vuopio J, Rantakokko-Jalava K

The Veterinary Journal, December 2025

https://doi.org/10.1016/j.tvjl.2025.106469

Epidemiological multilevel surveillance of methicillin-resistant staphylococci in a veterinary teaching hospital and first characterization of *Staphylococcus pseudintermedius* isolates using IR Biotyper®

R. Scarpellini, M. Cordovana, S. Ambretti, E. Esposito, E. Mondo, M. Giunti, S. Piva

Frontiers in Microbiology, 11 September 2024

https://doi.org/10.3389/fmicb.2024.1455945

Investigation of a linezolid-resistant *Staphylococcus epidermidis* outbreak in a French hospital: phenotypic, genotypic, and clinical characterization

Lépine N., Bras-Cachinho J., Couratin E., Lemaire C., Chaufour L., Junchat A. & Lartigue MF.

Journal of Clinical Microbiology, 3 October 2023

https://doi.org/10.1128/jcm.00347-23

Evaluation of Fourier transform-infrared spectroscopy (FT-IR) as a control measure for nosocomial outbreak investigations

Uribe G., Salipante S. J., Curtis L., Lieberman J. A., Kurosawa K., Cookson B. T., Hoogestraat D., Stewart M. K., Olmstead T., Bourassa L.

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Zoonoses and Public Health, 10 May 2023

https://doi.org/10.1111/zph.13046

Investigation of a *Staphylococcus aureus* sequence type 72 food poisoning outbreak associated with food-handler contamination in Italy

F. Savini, A. Romano, F. Giacometti, V. Indio, M. Pitti, L. Decastelli, P. L. Devalle, I. Silvia R. Gorrasi, S. Miaglia, A. Serraino

Pathogens 2023, 18 March 2023

https://doi.org/10.3390/pathogens12030481

Prescription of Rifampicin for *Staphylococcus aureus* Infections Increased the Incidence of *Corynebacterium striatum* with Decreased Susceptibility to Rifampicin in a Hungarian Clinical Center

Orosz L., Lengyel G., Makai K., Burián K.

Journal of Microbiological Methods, 8 November 2022

https://doi.org/10.1016/j.mimet.2022.106603

Comparison of FT-IR with whole-genome sequencing for identification of maternal-to-neonate transmission of antibiotic-resistant bacteria

Azrad M, Matok LA, Leshem T and Peretz A

Antibiotics, 7 July 2022

https://doi.org/10.3390/antibiotics11070909

Performance Evaluation of the IR Biotyper® System for Clinical Microbiology: Application for Detection of *Staphylococcus aureus* Sequence Type 8 Strains

Jun Sung Hong, Dokyun Kim and Seok Hoon Jeong

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Publications on *Stenotrophomonas* spp.

Journal of Hospital Infection, April 2026

https://doi.org/10.1016/j.jhin.2026.01.004

Assessing cross-transmission of Gram-negative bacteria in the intensive care unit: a prospective comparison of IR-Biotyper and core-genome multi-locus sequence typing

A. Villa, M. Danjean, C. Sakr, F. Cizeau, D. Ducellier, M. N'Debi, A. Mekontso-Dessap, K. Razazi, J-W. Decousser

Brazilian Journal of Microbiology, 1 April 2025

https://doi.org/10.1007/s42770-025-01669-y

Evaluation of biofilm formation, antimicrobial pattern, and typing of *Stenotrophomonas maltophilia* isolated from clinical sources in Brazil

P Araujo de Souza, MC Silva dos Santos, RV da Silva Lage de Miranda, L Veloso da Costa, RP Paschoal da Silva, C Silva, V Midlej, CA Chaia de Miranda, GM Silva da Conceição, SJ Forsythe, MH Simões Villas Bôas, ML Lima Brandão

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Publications on *Streptococcus* spp.

Diagnostics, 28 November 2025

https://doi.org/10.3390/diagnostics15233041

Machine Learning Model with Fourier-Transform Infrared Spectroscopy (FTIR) as a Proof-of-Concept Tool for Predicting Group A *Streptococcus* (GAS) *emm*-Type in the Pediatric Population

V Fox, G Vrenna, M Rossitto, S Raimondi, M Cristiano, V Cortazzo, M Agosta, B Lucignano, M Onori, V Tuccio Guarna Assanti, MS Lepanto, N Essa, I Tarissi De Jacobis, A Campana, M Raponi, A Villani, CF Perno and P Bernaschi

European Journal of Clinical Microbiology & Infectious Diseases, 21 May 2025

https://doi.org/10.1007/s10096-025-05162-0

Evaluation of Fourier-Transform Infrared Spectroscopy with IR Biotyper® system for *Streptococcus pneumoniae* serotyping

Tondolo Romero C., Kehl Moreira N., Rosa da Cunha G., Mariana Preussler Mott M. P., Cícero Dias C., Barth A. L. & Caierão J.

Frontiers in Microbiology, 21 November 2024

https://doi.org/10.3389/fmicb.2024.1497377

Fourier transform infrared spectroscopy for *Streptococcus pneumoniae* capsular serotype classification in pediatric patients with invasive infections

Vasconcelos TM, Rodrigues LS, Krul D, Barbosa SDC, Siqueira AC, Almeida SCG, Pacheco Souza APO, Pillonetto M, Oliveira R, Moonen CGJ, Siebra CA, Dalla-Costa LM.

Journal of Clinical Microbiology, 14 June 2022

https://doi.org/10.1128/jcm.00325-22

Validation of Fourier Transform Infrared Spectroscopy for Serotyping of *Streptococcus pneumoniae*

I. Passaris, N. Mauder, M. Kostrzewa, I. Burckhardt, S. Zimmermann, N. M. van Sorge, H.-C. Slotved, S. Desmet, P.-J. Ceyssens

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Eur J Clin Microbiol Infect Dis, 9 July 2019

https://doi.org/10.1007/s10096-019-03622-y

Analysis of *Streptococcus pneumoniae* using Fourier-transformed infrared spectroscopy allows prediction of capsular serotype

Burckhardt I, Sebastian K, Mauder N, Kostrzewa M, Burckhardt F, Zimmerman F

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Publications on “other genera”

J of Clinical Microbiology, July 2026

https://doi.org/10.1128/jcm.01422-25

Fourier transform infrared spectroscopy enables rapid strain typing in *M. pachydermatis*

Kurmann S, Coelho MA, David-Palma M, Díaz L, Castellá G, Cabañes FJ, Heitman J, LeibundGut-Landmann S, Muchaamba F.

Frontiers in Antibiotics, July 2026

https://doi.org/10.3389/frabi.2026.1781370

Evaluation of Fourier transform infrared spectroscopy as a first-line surveillance typing tool for *Serratia* spp. isolates derived from clinical materials

Lüdecke T, Hunfeld KP

Mycobiology, May 2026

https://doi.org/10.1080/12298093.2026.2671533

Performance of FTIR-Based IR Biotyper for Identification and Strain Discrimination of *Cryptococcus* Species

Won, E. J., Jeon, Y., Kim, T. Y., Bahn, Y. S., Sung, H., & Kim, M. N

Eur J Clin Microbiol Infect Dis, April 2026

https://doi.org/10.1007/s10096-026-05507-3

Application of FT-IR spectroscopy using the IR Biotyper® for *Leptospira*: protocol optimization and first spectral insights

Maria Jesus Bertani, A., Santos Lima, E., da Cunha Nobrega, N. *et al.*

J Microbial Methods, September 2025

https://doi.org/10.1016/j.mimet.2025.107184

Strain-level typing of *Wickerhamomyces anomalus* using Fourier transform infrared spectroscopy and whole-genome sequencing

A Kashiwaba, A Mitani, T Sonoda, N Shigemune, H Takahashi

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