

## Publication

### A simple, rapid typing method for *Streptococcus agalactiae* based on ribosomal subunit proteins by MALDI-TOF MS

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**Author(s)** Rothen, Julian; Sapugahawatte, Dulmini Nanayakkara; Li, Carmen; Lo, Norman; Vogel, Guido; Foucault, Frédéric; Pflüger, Valentin; Pothier, Joël F.; Blom, Jochen; Daubenberger, Claudia; Ip, Margaret

**Author(s) at UniBasel** [Rothen, Julian](#) ; [Daubenberger, Claudia](#) ;

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*Streptococcus agalactiae* (Group B *Streptococcus*, GBS), is a frequent human colonizer and a leading cause of neonatal meningitis as well as an emerging pathogen in non-pregnant adults. GBS possesses a broad animal host spectrum, and recent studies proved atypical GBS genotypes can cause human invasive diseases through animal sources as food-borne zoonotic infections. We applied a MALDI-TOF MS typing method, based on molecular weight variations of predefined 28 ribosomal subunit proteins (*rsp*) to classify GBS strains of varying serotypes into major phylogenetic lineages. A total of 249 GBS isolates of representative and varying capsular serotypes from patients and animal food sources (fish and pig) collected during 2016-2018 in Hong Kong were analysed. Over 84% (143/171) noninvasive carriage GBS strains from patients were readily typed into 5 globally dominant *rsp*-profiles. Among GBS strains from food animals, over 90% (57/63) of fish and 13% (2/15) of pig GBS matched with existing *rsp*-profiles, while the remainder were classified into two novel *rsp*-profiles and we failed to assign a fish strain into any cluster. MALDI-TOF MS allowed for high-throughput screening and simultaneous detection of novel, so far not well described GBS genotypes. The method shown here is rapid, simple, readily transferable and adapted for use in a diagnostic microbiology laboratory with potential for the surveillance of emerging GBS genotypes with zoonotic potential.

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