

Table 5: Comparison of different tools for detection of antimicrobial resistance genes. We applied RGI<sup>[2]</sup>, Abricate<sup>[3]</sup> (with the CARD database), AMRFinderPlus<sup>[4]</sup> and Resfinder<sup>[5]</sup> to the hybrid assemblies of 82 isolates of *V. cholerae*. RGI can detect the highest amount of genes and is uniquely able to use protein variant models to find gene variants. Abricate can detect gene loci at a higher completeness, being able to merge adjacent hits that were split in the underlying BLAST alignment. CholerAegon uses a combined approach, harnessing both RGI's and Abricate's advantages. RGI – Resistance Gene Identifier; COV – mean coverage of the reference gene sequence; EC parE – *Escherichia coli* parE conferring resistance to fluoroquinolones.

| AMR gene                    | RGI     |        | Abricate |        | AMRFinderPlus |        | Resfinder |        |
|-----------------------------|---------|--------|----------|--------|---------------|--------|-----------|--------|
|                             | # found | COV    | # found  | COV    | # found       | COV    | # found   | COV    |
| APH(3 <sup>''</sup> )-Ib    | 74      | 97.08  | 74       | 100.00 | 74            | 99.11  | 74        | 100.00 |
| APH(6)-Id                   | 74      | 100.00 | 74       | 100.00 | 74            | 100.00 | 74        | 100.00 |
| CRP                         | 82      | 100.00 | 82       | 99.68  | 0             | –      | 0         | –      |
| <i>Vibrio cholerae</i> varG | 79      | 95.90  | 79       | 100.00 | 79            | 100.00 | 0         | –      |
| almG                        | 82      | 100.00 | 82       | 100.00 | 0             | –      | 0         | –      |
| catB9                       | 79      | 100.00 | 79       | 100.00 | 79            | 100.00 | 79        | 100.00 |
| dfrA1                       | 79      | 100.00 | 79       | 100.00 | 79            | 100.00 | 79        | 100.00 |
| floR                        | 74      | 99.94  | 74       | 100.00 | 74            | 99.96  | 74        | 99.92  |
| rsmA                        | 82      | 106.56 | 0        | –      | 0             | –      | 0         | –      |
| sul2                        | 74      | 99.48  | 74       | 100.00 | 74            | 99.61  | 74        | 100.00 |
| EC parE                     | 82      | 99.37  | 0        | –      | 0             | –      | 0         | –      |