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| **resistancegene** | **species** | **environments** |
| BcII-1 | *Bacillus cereus, Bacillus thuringiensis* | miscellaneous, soil, food |
| BlaB-9 | *Elizabethkingia sp., Elizabethkingia miricola* | human |
| CGB-1 | *Chryseobacterium gleum, Chryseobacterium indologenes* | human, plant |
| DIM-1 | *Pseudomonas aeruginosa* | human |
| GES-2 | *Enterobacter cloacae* | human |
| GES-20 | *Pseudomonas aeruginosa, Klebsiella pneumoniae* | human |
| GES-24 | *Enterobacter cloacae, Klebsiella pneumoniae* | human |
| GES-5 | *Klebsiella pneumoniae, Pseudomonas aeruginosa, Enterobacter cloacae, Morganella morganii, Aeromonas hydrophila, Acinetobacter baumannii* | human, miscellaneous, wastewater |
| GES-6 | *Pseudomonas aeruginosa* | human |
| GIM-1 | *Acinetobacter pittii, Enterobacter cloacae* | human, miscellaneous |
| IMI-1 | *Enterobacter cloacae* | human |
| IMI-12 | *Enterobacter asburiae* | miscellaneous |
| IMI-2 | *Enterobacter mori* | human |
| IMI-4 | *Enterobacter cloacae* | human |
| IMI-7 | *Enterobacter cloacae* | human |
| IMI-9 | *Enterobacter sp.* | human |
| IMP-1 | *Pseudomonas aeruginosa, Acinetobacter junii, Serratia marcescens, Acinetobacter baumannii, Pseudomonas sp., Enterobacter cloacae, Enterobacter kobei, Acinetobacter nosocomialis, Acinetobacter pittii, Acinetobacter sp., Escherichia coli, Klebsiella pneumoniae, Enterobacter hormaechei, Enterobacter sp., Enterobacter asburiae* | miscellaneous, human |
| IMP-10 | *Pseudomonas sp.* | human |
| IMP-13 | *Pseudomonas aeruginosa, Enterobacter cloacae, Enterobacter hormaechei* | miscellaneous, human |
| IMP-14 | *Pseudomonas aeruginosa, Enterobacter cloacae, Klebsiella pneumoniae, Escherichia coli, Klebsiella quasipneumoniae, Enterobacter hormaechei* | miscellaneous, human |
| IMP-18 | *Pseudomonas aeruginosa* | miscellaneous, human |
| IMP-19 | *Acinetobacter pittii, Pseudomonas aeruginosa* | miscellaneous, human |
| IMP-26 | *Escherichia coli, Pseudomonas aeruginosa* | human |
| IMP-27 | *Proteus mirabilis, Providencia rettgeri, Escherichia coli* | human, food |
| IMP-34 | *Pseudomonas aeruginosa, Acinetobacter genomosp.* | miscellaneous, human |
| IMP-4 | *Enterobacter cloacae, Klebsiella pneumoniae, Escherichia coli, Citrobacter freundii, Acinetobacter baumannii, Acinetobacter pittii, Raoultella ornithinolytica, Providencia sp., Klebsiella aerogenes* | human, miscellaneous |
| IMP-45 | *Pseudomonas aeruginosa* | human |
| IMP-6 | *Escherichia coli* | human |
| IMP-7 | *Pseudomonas aeruginosa* | human |
| IMP-8 | *Enterobacter cloacae, Enterobacter hormaechei, Pseudomonas aeruginosa* | human, miscellaneous |
| IMP-9 | *Pseudomonas aeruginosa* | miscellaneous |
| KPC-12 | *Klebsiella pneumoniae* | human |
| KPC-18 | *Enterobacter cloacae* | human |
| KPC-2 | *Citrobacter sp., Pseudomonas aeruginosa, Citrobacter freundii, Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Enterobacter asburiae, Klebsiella michiganensis, Proteus mirabilis, Klebsiella variicola, Klebsiella grimontii, Serratia marcescens, Citrobacter koseri, Citrobacter braakii, Kluyvera intermedia, Aeromonas hydrophila, Enterobacter sp., Klebsiella quasipneumoniae, Salmonella enterica, Pantoea sp., Pseudomonas sp., Citrobacter farmeri, Raoultella planticola, Raoultella ornithinolytica, Enterobacter hormaechei, Klebsiella aerogenes, Pluralibacter gergoviae, Enterobacter xiangfangensis, Morganella morganii, Escherichia sp., Leclercia sp., Serratia sp., Aeromonas sp., Achromobacter sp., Acinetobacter sp.* | human, wastewater, miscellaneous, soil, water |
| KPC-3 | *Enterobacter cloacae, Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Serratia marcescens, Enterobacter asburiae, Klebsiella quasipneumoniae, Raoultella planticola, Citrobacter sp., Enterobacter sp., Enterobacter aerogenes, Enterobacter xiangfangensis, Enterobacter hormaechei, Klebsiella aerogenes, Citrobacter freundii, Klebsiella michiganensis, Acinetobacter baumannii, Proteus mirabilis, Raoultella ornithinolytica, Pantoea sp.* | human, miscellaneous, water |
| KPC-31 | *Klebsiella pneumoniae* | human |
| KPC-32 | *Klebsiella pneumoniae* | human |
| KPC-33 | *Klebsiella pneumoniae* | human |
| KPC-4 | *Enterobacter cloacae, Klebsiella pneumoniae, Escherichia coli, Enterobacter sp., Citrobacter sp., Enterobacter hormaechei* | human, miscellaneous |
| KPC-5 | *Enterobacter hormaechei* | human |
| KPC-6 | *Proteus mirabilis, Klebsiella pneumoniae, Enterobacter cloacae* | miscellaneous, human |
| KPC-7 | *Klebsiella pneumoniae* | human |
| KPC-8 | *Klebsiella pneumoniae* | human |
| NDM-1 | *Enterobacter cloacae, Acinetobacter baumannii, Acinetobacter pittii, Citrobacter freundii, Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Proteus mirabilis, Providencia stuartii, Serratia marcescens, Enterobacter asburiae, Acinetobacter junii, Raoultella planticola, Acinetobacter bereziniae, Providencia rettgeri, Acinetobacter sp., Acinetobacter lwoffii, Klebsiella michiganensis, Klebsiella sp., Vibrio cholerae, Shewanella putrefaciens, Citrobacter sp., Morganella morganii, Enterobacter hormaechei, Acinetobacter nosocomialis, Klebsiella quasipneumoniae, Enterobacter sp., Acinetobacter genomosp., Bacillus subtilis, Acinetobacter soli, Acinetobacter radioresistens, Klebsiella variicola, Acinetobacter calcoaceticus, Acinetobacter dijkshoorniae, Klebsiella aerogenes, Citrobacter werkmanii, Pseudomonas aeruginosa, Leclercia adecarboxylata, Pseudomonas sp., Raoultella ornithinolytica, Salmonella enterica, Acinetobacter calcoaceticus/baumannii, Vibrio parahaemolyticus* | human, wastewater, miscellaneous, water, chicken, pets, soil, pig, food |
| NDM-19 | *Klebsiella pneumoniae* | miscellaneous |
| NDM-21 | *Escherichia coli* | human |
| NDM-4 | *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae* | wastewater, human |
| NDM-5 | *Escherichia coli, Klebsiella michiganensis, Klebsiella pneumoniae, Klebsiella quasipneumoniae, Enterobacter xiangfangensis, Citrobacter freundii, Salmonella enterica, Klebsiella variicola, Streptomyces sp., Enterobacter hormaechei, Escherichia sp., Enterobacter cloacae* | human, miscellaneous, chicken, pets, wastewater, water |
| NDM-6 | *Escherichia coli, Enterobacter aerogenes, Klebsiella pneumoniae* | miscellaneous, human |
| NDM-7 | *Escherichia coli, Klebsiella pneumoniae, Salmonella enterica, Enterobacter hormaechei* | human, miscellaneous |
| NDM-9 | *Klebsiella variicola, Escherichia coli, Salmonella enterica, Klebsiella pneumoniae* | miscellaneous, pets, chicken, human, water, wastewater |
| NmcA | *Enterobacter cloacae, Enterobacter ludwigii* | human, miscellaneous |
| OXA-100 | *Acinetobacter baumannii, Acinetobacter calcoaceticus/baumannii* | human, miscellaneous |
| OXA-103 | *Acinetobacter radioresistens* | miscellaneous |
| OXA-104 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-106 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-107 | *Acinetobacter baumannii* | human |
| OXA-109 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-111 | *Acinetobacter baumannii* | human |
| OXA-113 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-117 | *Acinetobacter baumannii* | human |
| OXA-120 | *Acinetobacter baumannii* | human, plant, miscellaneous |
| OXA-121 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-123 | *Acinetobacter baumannii* | human |
| OXA-126 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-128 | *Acinetobacter baumannii* | human |
| OXA-132 | *Acinetobacter baumannii* | human |
| OXA-134 | *Acinetobacter sp., Acinetobacter lwoffii* | human |
| OXA-143 | *Acinetobacter baumannii* | human |
| OXA-144 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-146 | *Acinetobacter indicus* | cattle |
| OXA-151 | *Pandoraea pnomenusa* | human |
| OXA-162 | *Klebsiella pneumoniae* | human |
| OXA-164 | *Acinetobacter baumannii* | human |
| OXA-172 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-180 | *Acinetobacter baumannii* | human |
| OXA-181 | *Escherichia coli, Klebsiella pneumoniae, Citrobacter freundii, Morganella morganii, Salmonella enterica, Aeromonas caviae, Enterobacter cloacae* | human, miscellaneous |
| OXA-202 | *Acinetobacter baumannii* | miscellaneous |
| OXA-204 | *Klebsiella pneumoniae* | human |
| OXA-207 | *Acinetobacter baumannii* | human |
| OXA-208 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-211 | *Acinetobacter johnsonii* | miscellaneous |
| OXA-212 | *Acinetobacter johnsonii* | miscellaneous |
| OXA-213 | *Acinetobacter calcoaceticus* | soil, miscellaneous |
| OXA-214 | *Acinetobacter sp., Staphylococcus epidermidis, Acinetobacter haemolyticus* | human, miscellaneous |
| OXA-217 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-219 | *Acinetobacter baumannii* | human |
| OXA-223 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-225 | *Acinetobacter baumannii* | human |
| OXA-23 | *Acinetobacter baumannii, Acinetobacter pittii, Acinetobacter radioresistens, Acinetobacter sp., Acinetobacter gandensis, Acinetobacter nosocomialis, Klebsiella pneumoniae, Acinetobacter indicus* | human, miscellaneous, wastewater, pets, cattle |
| OXA-231 | *Acinetobacter baumannii* | human |
| OXA-232 | *Escherichia coli, Klebsiella pneumoniae, Shigella sonnei* | miscellaneous, human |
| OXA-234 | *Acinetobacter baumannii* | human |
| OXA-235 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-237 | *Acinetobacter baumannii* | human |
| OXA-239 | *Acinetobacter baumannii* | human |
| OXA-24 | *Acinetobacter baumannii, Acinetobacter calcoaceticus, Acinetobacter nosocomialis, Klebsiella pneumoniae* | human, miscellaneous |
| OXA-241 | *Acinetobacter baumannii* | human |
| OXA-242 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-244 | *Klebsiella pneumoniae, Escherichia coli* | miscellaneous, human |
| OXA-245 | *Klebsiella pneumoniae* | human, miscellaneous |
| OXA-254 | *Acinetobacter baumannii* | miscellaneous |
| OXA-259 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-260 | *Acinetobacter baumannii* | human |
| OXA-261 | *Acinetobacter baumannii* | human |
| OXA-262 | *Acinetobacter baumannii* | human |
| OXA-263 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-264 | *Acinetobacter haemolyticus* | miscellaneous, human |
| OXA-265 | *Acinetobacter haemolyticus* | human |
| OXA-267 | *Acinetobacter calcoaceticus* | miscellaneous |
| OXA-268 | *Acinetobacter calcoaceticus* | human |
| OXA-269 | *Acinetobacter calcoaceticus* | water |
| OXA-270 | *Acinetobacter pittii* | human |
| OXA-271 | *Acinetobacter pittii* | human |
| OXA-272 | *Acinetobacter genomosp., Acinetobacter pittii* | miscellaneous, human |
| OXA-273 | *Acinetobacter pittii, Acinetobacter baumannii, Acinetobacter sp.* | water, human, soil |
| OXA-276 | *Acinetobacter schindleri, Klebsiella pneumoniae, Acinetobacter sp.* | human, miscellaneous |
| OXA-277 | *Acinetobacter schindleri* | miscellaneous, human |
| OXA-280 | *Acinetobacter johnsonii* | water |
| OXA-281 | *Acinetobacter johnsonii* | miscellaneous, human |
| OXA-282 | *Acinetobacter lwoffii* | human, miscellaneous |
| OXA-283 | *Mycobacterium tuberculosis, Acinetobacter lwoffii, Acinetobacter sp., Acinetobacter guillouiae* | miscellaneous, human |
| OXA-284 | *Acinetobacter sp.* | human |
| OXA-285 | *Acinetobacter sp., Acinetobacter lwoffii* | human |
| OXA-300 | *Acinetobacter bereziniae* | human |
| OXA-301 | *Acinetobacter bereziniae* | human, miscellaneous |
| OXA-304 | *Acinetobacter sp.* | human |
| OXA-305 | *Acinetobacter sp.* | human |
| OXA-312 | *Acinetobacter baumannii* | human |
| OXA-314 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-317 | *Acinetobacter baumannii* | human |
| OXA-334 | *Acinetobacter johnsonii* | miscellaneous |
| OXA-337 | *Acinetobacter baumannii* | human |
| OXA-338 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-340 | *Acinetobacter baumannii, Acinetobacter calcoaceticus* | human, miscellaneous |
| OXA-343 | *Acinetobacter baumannii* | miscellaneous |
| OXA-344 | *Acinetobacter baumannii* | miscellaneous |
| OXA-360 | *Acinetobacter sp., Acinetobacter schindleri* | human, miscellaneous, water |
| OXA-374 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-378 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-381 | *Acinetobacter baumannii* | miscellaneous |
| OXA-383 | *Acinetobacter baumannii* | human |
| OXA-402 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-407 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-417 | *Acinetobacter pittii* | human |
| OXA-421 | *Acinetobacter pittii, Acinetobacter baumannii, Acinetobacter sp.* | human, miscellaneous |
| OXA-424 | *Acinetobacter baumannii* | human |
| OXA-425 | *Acinetobacter baumannii* | human |
| OXA-426 | *Acinetobacter baumannii* | human |
| OXA-431 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-441 | *Acinetobacter baumannii* | human |
| OXA-444 | *Ralstonia mannitolilytica, Ralstonia sp.* | human, water |
| OXA-48 | *Enterobacter aerogenes, Enterobacter cloacae, Escherichia coli, Klebsiella pneumoniae, Shewanella sp., Citrobacter freundii, Enterobacter kobei, Klebsiella aerogenes, Citrobacter koseri, Enterobacter hormaechei, Raoultella ornithinolytica, Proteus mirabilis, Klebsiella quasipneumoniae, Kluyvera ascorbata* | human, miscellaneous, wastewater, water |
| OXA-497 | *Acinetobacter baumannii* | food |
| OXA-499 | *Acinetobacter pittii* | human |
| OXA-500 | *Acinetobacter baumannii, Acinetobacter pittii, Acinetobacter genomosp., Acinetobacter sp., Acinetobacter calcoaceticus* | miscellaneous, human, pets |
| OXA-501 | *Acinetobacter pittii* | human |
| OXA-502 | *Acinetobacter pittii, Acinetobacter baumannii* | human |
| OXA-503 | *Acinetobacter pittii* | human |
| OXA-506 | *Acinetobacter calcoaceticus, Acinetobacter pittii, Acinetobacter baumannii, Acinetobacter sp.* | human, miscellaneous |
| OXA-51 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-510 | *Acinetobacter baumannii* | miscellaneous |
| OXA-533 | *Acinetobacter pittii* | human |
| OXA-535 | *Shewanella bicestrii* | human |
| OXA-545 | *Acinetobacter baumannii* | miscellaneous |
| OXA-58 | *Acinetobacter sp., Acinetobacter baumannii, Proteus mirabilis, Acinetobacter pittii, Acinetobacter johnsonii, Acinetobacter indicus* | wastewater, miscellaneous, human, pets, cattle |
| OXA-60 | *Ralstonia pickettii, Ralstonia sp.* | miscellaneous |
| OXA-64 | *Acinetobacter baumannii* | human, miscellaneous, soil |
| OXA-65 | *Acinetobacter baumannii, Klebsiella pneumoniae* | human, miscellaneous, soil, plant |
| OXA-66 | *Acinetobacter baumannii, Klebsiella pneumoniae, Acinetobacter nosocomialis* | human, miscellaneous |
| OXA-67 | *Acinetobacter baumannii* | miscellaneous |
| OXA-68 | *Acinetobacter baumannii, Klebsiella pneumoniae* | human, miscellaneous, pets, chicken |
| OXA-69 | *Acinetobacter baumannii* | human, miscellaneous, pets |
| OXA-70 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-71 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-72 | *Acinetobacter baumannii, Acinetobacter pittii, Gallaecimonas pentaromativorans, Erythrobacter sp., Staphylococcus aureus* | human, miscellaneous, water, soil |
| OXA-75 | *Acinetobacter baumannii* | human |
| OXA-78 | *Acinetobacter baumannii* | miscellaneous, human |
| OXA-80 | *Acinetobacter baumannii* | human |
| OXA-82 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-83 | *Acinetobacter baumannii, Klebsiella pneumoniae* | human, miscellaneous |
| OXA-88 | *Acinetobacter baumannii* | human |
| OXA-90 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-91 | *Acinetobacter baumannii, Acinetobacter sp.* | human, miscellaneous, soil |
| OXA-92 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-94 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-95 | *Acinetobacter baumannii* | human |
| OXA-96 | *Acinetobacter pittii* | human |
| OXA-98 | *Acinetobacter baumannii* | human, miscellaneous |
| OXA-99 | *Acinetobacter baumannii* | human |
| SHV-38 | *Klebsiella pneumoniae* | wastewater |
| SME-2 | *Serratia marcescens* | human |
| SME-4 | *Serratia marcescens* | human, miscellaneous |
| SPM-1 | *Pseudomonas aeruginosa* | miscellaneous, human, water |
| VIM-1 | *Salmonella enterica, Providencia stuartii, Klebsiella oxytoca, Klebsiella pneumoniae, Achromobacter denitrificans, Enterobacter cloacae, Providencia rettgeri, Serratia marcescens, Pseudomonas putida, Enterobacter hormaechei, Pseudomonas aeruginosa, Citrobacter freundii, Escherichia coli* | human, miscellaneous, food |
| VIM-2 | *Pseudomonas aeruginosa, Pseudomonas putida, Pseudomonas sp., Pseudomonas stutzeri, Alcaligenes faecalis, Acinetobacter baumannii* | miscellaneous, pets, human, wastewater |
| VIM-24 | *Klebsiella pneumoniae* | human |
| VIM-33 | *Klebsiella pneumoniae* | miscellaneous |
| VIM-36 | *Pseudomonas aeruginosa* | human |
| VIM-4 | *Enterobacter cloacae, Citrobacter freundii, Enterobacter hormaechei* | human |
| VIM-48 | *Pseudomonas putida* | chicken, miscellaneous |
| VIM-5 | *Enterobacter hormaechei, Pseudomonas guariconensis, Pseudomonas plecoglossicida* | human, soil |
| VIM-7 | *Pseudomonas aeruginosa* | miscellaneous |