

Laboratory Criteria for Diagnosis

- **SUSPECTED CRE**

A suspected case of CRE is a patient whose clinical specimen culture yields a bacterium of the *Enterobacteriaceae* family (see **Table 1a**) that:

A) tests **nonsusceptible** (intermediate or resistant) to **any carbapenem** including doripenem, ertapenem, imipenem*, or meropenem by any set of breakpoints

AND/OR

B) tests **positive** for a carbapenemase by a **nucleic acid amplification** test

AND/OR

C) tests **positive** for carbapenemase production by a **phenotypic test** (i.e. Carba NP, Modified Hodge Test**)

- **CONFIRMED CRE**

A confirmed case of CRE is a patient whose clinical specimen culture yields a bacterium of the *Enterobacteriaceae* family (see table 1) that:

A) tests **resistant to any carbapenem** including doripenem, ertapenem, imipenem, or meropenem

AND/OR

B) tests **positive** for a carbapenemase by a **nucleic acid amplification** test; (i.e., PCR-positive for KPC, NDM, IMP, VIM, or OXA-48)

AND/OR

C) tests **positive** for carbapenemase production by a **phenotypic test** (i.e. Carba NP, Modified Hodge Test**)

***Note:** Carbapenem-resistant *Proteus* spp., *Providencia* spp. and *Morganella* spp. that are non-susceptible ONLY to imipenem but susceptible to other carbapenems may be attributed to “intrinsic” resistance. These isolates do not need to be reported.

**** Note:** MHT should not be used for *Enterobacter* species or other *Enterobacteriaceae* with a chromosomal AmpC.

Table 1a.

<i>Averyella</i>	<i>Hafnia</i>	<i>Pragia</i>	<i>Yersinia</i>
<i>Budvicia</i>	<i>Klebsiella</i>	<i>Proteus</i> *	<i>Yokenella</i>
<i>Buttiauxella</i>	<i>Kluyvera</i>	<i>Providencia</i> *	Enteric Group 58
<i>Cedecea</i>	<i>Leclercia</i>	<i>Rahnella</i>	Enteric Group 59
<i>Citrobacter</i>	<i>Leminorella</i>	<i>Salmonella</i>	Enteric Group 60
<i>Cronobacter</i>	<i>Moellerella</i>	<i>Serratia</i>	Enteric Group 63
<i>Edwardsiella</i>	<i>Morganella</i> *	<i>Shigella</i>	Enteric Group 64
<i>Enterobacter</i>	<i>Pantoea</i>	<i>Tatumella</i>	Enteric Group 68
<i>Escherichia</i>	<i>Photobacterium</i>	<i>Trabulsiella</i>	Enteric Group 69
<i>Ewingella</i>	<i>Plesiomonas</i>	<i>Xenorhabdus</i>	Enteric Group 137
* Elevated MICs to imipenem in <i>Morganella</i> spp., <i>Proteus</i> spp., and <i>Providencia</i> spp. are frequently due to mechanisms other than carbapenemases. Please do NOT send isolates of these genera to OSPHL unless there is also resistance to other carbapenems.			