

# PRODUCT INFORMATION



## Avibactam (sodium salt)

Item No. 22825

**CAS Registry No.:** 1192491-61-4  
**Formal Name:** sulfuric acid, mono[(1R,2S,5R)-2-(aminocarbonyl)-7-oxo-1,6-diazabicyclo[3.2.1]oct-6-yl] ester, monosodium salt

**Synonyms:** AVE-1330A, NXL104

**MF:** C<sub>7</sub>H<sub>10</sub>N<sub>3</sub>O<sub>6</sub>S • Na

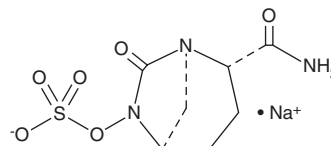
**FW:** 287.2

**Purity:** ≥95%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Avibactam (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the avibactam (sodium salt) in the solvent of choice. Avibactam (sodium salt) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of avibactam (sodium salt) in these solvents is approximately 5 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of avibactam (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of avibactam (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Avibactam is a  $\beta$ -lactamase inhibitor (IC<sub>50</sub>s = 8, 80, and 38 nM for TEM-1, P99, and KPC-2  $\beta$ -lactamases, respectively).<sup>1,2</sup> It restores the antimicrobial activity of ceftazidime (Item No. 14828), ceftriaxone (Item No. 18866), imipenem (Item No. 16039), and piperacillin (Item No. 20766) against antibiotic-resistant *Enterobacteriaceae* *in vitro* (MIC<sub>90</sub> reduction 4-1,024-fold across 190 *E. coli* and *K. pneumoniae* clinical isolates).<sup>3</sup> Formulations containing avibactam have been used to treat carbapenem-resistant *Enterobacteriaceae* infections.<sup>4</sup>

### References

1. Stachyra, T., Pe´chereau, M.-C., Bruneau, J.-M., *et al.* *Antimicrob. Agents Chemother.* **54**(12), 5132-5138 (2010).
2. Bonnefoy, A., Dupuis-Hamelin, C., Steir, V., *et al.* *J. Antimicrob. Chemother.* **54**(2), 410-417 (2004).
3. Lagace´-Wiens, P.R.S., Taylor, F., Simner, P., *et al.* *Antimicrob. Agents Chemother.* **55**(5), 243-247 (2011).
4. King, M., Heil, E., Kuriakose, S., *et al.* *Antimicrob. Agents Chemother.* **61**(7), 1-11 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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