

1 To interact with other cells, bacteria use contractile machines that function similar to membrane-
2 puncturing bacteriophages. Some systems act in extracellular space, while others, including the
3 type 6 secretion system (T6SS), function inside the cell. Here we used modern electron
4 microscopy methods and functional assays to resolve the structure and function of a T6SS in the
5 cellular context. We identified three modules and showed large-scale structural changes upon
6 firing. T6SSs were organized in multi-barrel gun-like arrays and may contribute to the survival
7 of bacteria inside their host. Sequence analyses suggested that T6SSs are more abundant than
8 previously thought.