

Genetic Description of Adenylate Cyclase Toxin and Toxoid

AC/CyaA toxin

Buffer: 8 M Urea, 50 mM Tris-HCl, 2 mM EDTA, pH 8.0

Description: Recombinant CyaA toxin GI:460425292 = UniProtKB/Swiss-Prot: P0DKX7.1

Source of gene: CyaA gene of *Bordetella pertussis* 18323 (identical to Tohama I)

Produced in: *Escherichia coli* BL21 transformed with [pT7CT7ACT1 (cyaC⁺) + pMM100 (lacI^q)]

CyaA-AC⁻ toxoid

Buffer: 8 M Urea, 50 mM Tris-HCl, 2 mM EDTA, pH 8.0

Description: Recombinant CyaA-AC⁻toxoid; CyaA (GI:460425292 = UniProtKB/Swiss-Prot: P0DKX7.1) mutant devoid of adenylate cyclase activity due to insertion of a GlyPhe dipeptide into the ATP binding site of the AC domain.

Reference: Osicka R, Osicková A, Basar T, Guermonprez P, Rojas M, Leclerc C, Sebo P (2000) *Infection and Immunity* **68**: 247-256 PMID: 10603395.

Source of gene: CyaA gene of *Bordetella pertussis* 18323 (identical to Tohama I) with a synthetic BamHI linker, 5'-GGATCC-3', encoding a dipeptide, GlyPhe, inserted into the EcoRV site between codons 188 and 189

Produced in *Escherichia coli* XL1-Blue transformed with pT7CACT1 (cyaC⁺)