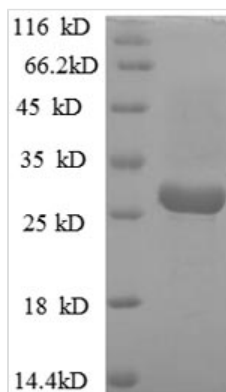




# Recombinant Helicobacter pylori Vacuolating cytotoxin autotransporter (vacA), partial

<b>Product Code</b>	CSB-EP345927HUV2
<b>Relevance</b>	Induces vacuolation of eukaryotic cells. Causes ulceration and gastric lesions.
<b>Abbreviation</b>	Recombinant Helicobacter pylori vacA protein, partial
<b>Storage</b>	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
<b>Uniprot No.</b>	P55981
<b>Product Type</b>	Recombinant Proteins
<b>Immunogen Species</b>	Helicobacter pylori (strain ATCC 700392 / 26695) (Campylobacter pylori)
<b>Purity</b>	Greater than 90% as determined by SDS-PAGE.
<b>Sequence</b>	QANSLNSGANNTNFGVYSRIFANQHEFDFAQAGALGSDQSSLNFKSALLRDL NQSYNLAYSAATRASYGYDFAFFRNALVLKPSVGVSYNHLGSTNFKSNSNQ VALKNGSSSQHLFNASANVEARYYYGDTSYFYMNAGVLQEFANFGSSNAVSL NTFKVNAAHNPLSTHARVMMGGELKLAKEVFLNLGFVYLHNLISNIGHFASNLG MRYSF
<b>Research Area</b>	Others
<b>Source</b>	E.coli
<b>Target Names</b>	vacA
<b>Expression Region</b>	1076-1290aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	N-terminal 6xHis-tagged
<b>Mol. Weight</b>	27.7kDa
<b>Protein Length</b>	Partial

## Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



## Description

Recombinant *Helicobacter pylori* Vacuolating cytotoxin autotransporter (vacA) is expressed in *E. coli*, covering amino acid region 1076-1290. This partial protein carries an N-terminal 6xHis-tag that helps with purification and detection. SDS-PAGE analysis shows the product achieves greater than 90% purity, which appears suitable for research applications.

Vacuolating cytotoxin autotransporter (VacA) from *Helicobacter pylori* represents a key factor in bacterial pathogenicity. The protein plays an important role in how the bacterium manipulates host cellular processes. VacA promotes vacuole formation in host cells and participates in various cellular pathways. This makes it a valuable protein for studying bacterial-host interactions and immune responses.

## Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

### 1. Antibody Development and Immunoassay Research

This recombinant VacA fragment (1076-1290aa) may serve as an immunogen for creating polyclonal or monoclonal antibodies specific to this C-terminal region of the vacuolating cytotoxin. The N-terminal 6xHis tag simplifies purification and immobilization for antibody screening assays. At greater than 90% purity, the protein is likely suitable for immunization protocols and follow-up antibody characterization studies. These antibodies could become useful research tools for examining VacA expression, localization, and processing in *H. pylori* research.

### 2. Protein-Protein Interaction Studies

The 6xHis tag allows pull-down assays to identify potential binding partners of this specific VacA domain in bacterial lysates or purified protein libraries. High purity levels make it appropriate for co-immunoprecipitation experiments and surface plasmon resonance studies to characterize binding kinetics with known or suspected interacting proteins. This partial VacA construct might reveal domain-specific interactions that differ from full-length protein studies.

### 3. Biochemical Characterization and Stability Studies

The purified recombinant fragment can help investigate the biochemical properties of this specific VacA domain, including thermal stability, pH tolerance, and proteolytic sensitivity. Size exclusion chromatography and dynamic light scattering experiments may determine the oligomerization state and aggregation behavior of this domain. Such studies would provide insights into the structural and functional properties of the C-terminal region of VacA independent of other



domains.

#### **4. ELISA Development for Research Applications**

The 6xHis-tagged protein can be immobilized on nickel-coated plates or anti-His antibody-coated surfaces for developing enzyme-linked immunosorbent assays. Given its high purity, the protein serves as a reliable antigen for standardizing detection methods in *H. pylori* research. This ELISA system could screen sera from infected animal models or quantify anti-VacA immune responses in preclinical vaccination studies.

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#### **Shelf Life**

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Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.