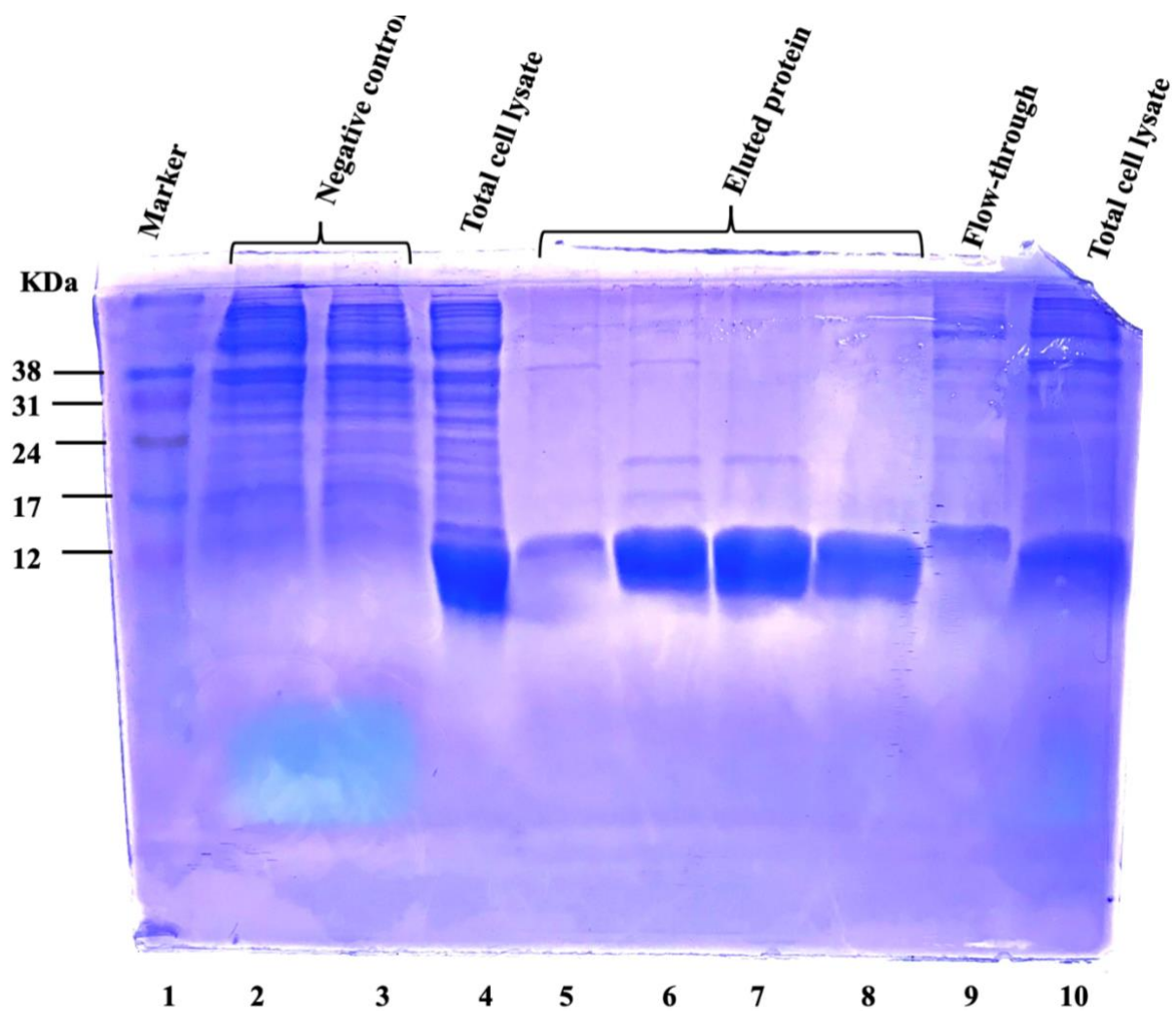
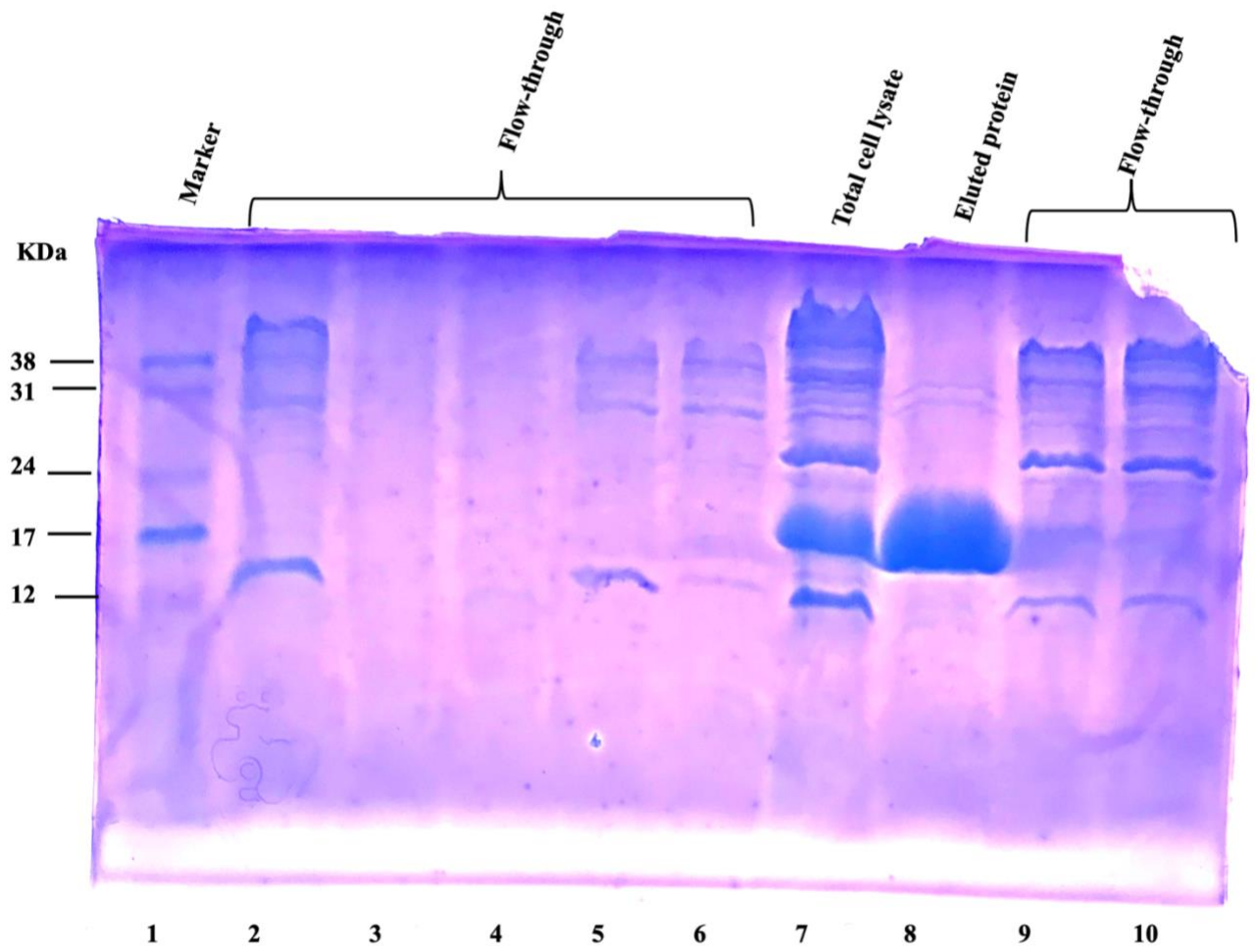


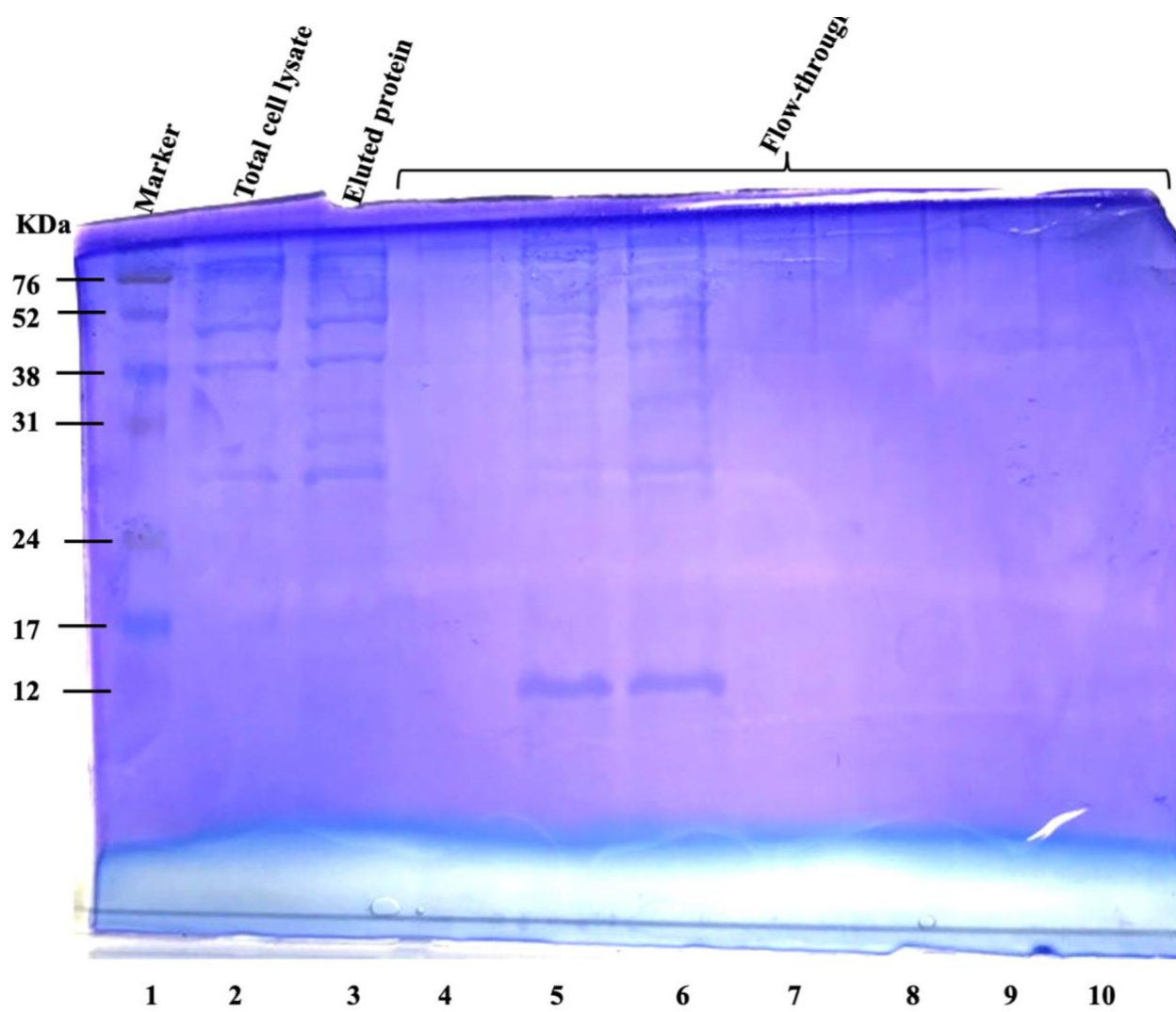
a



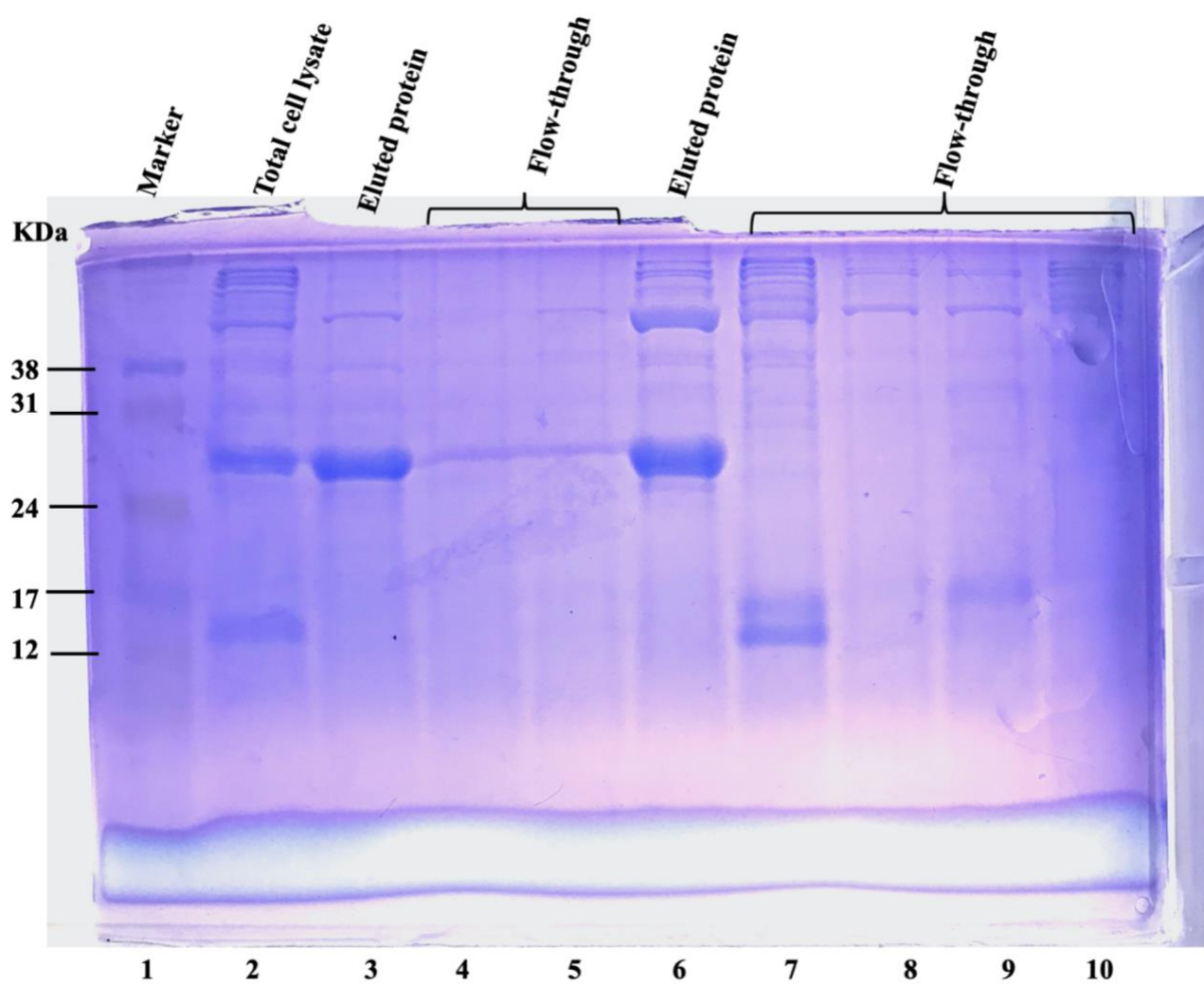
b



c



d



e

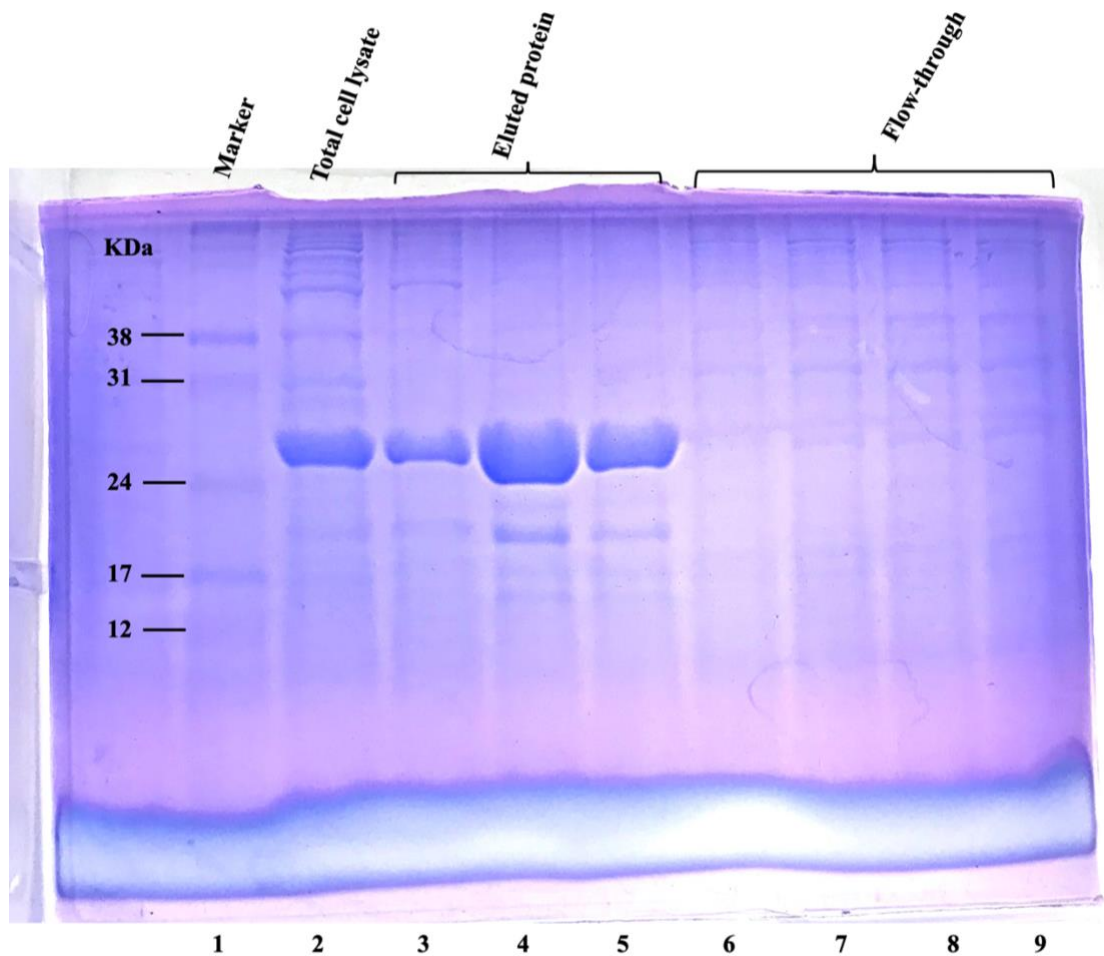


Figure S.1. SDS-PAGE gel showing purification of His-tagged recombinant proteins by imidazole step gradient. 15 μ L of total cell lysate and fractions of a) P153, b) P264, c) P509, d) P537, and e) P561 were observed by SDS-PAGE and Coomassie Blue staining. The size of the recombinant protein is 4 KDa higher than the expected size due to the inclusion of the His-tag and V5 tag at N-terminal. Negative control samples in **Fig 1.a** consist of total cell protein samples from BL21 cells that were transformed with pET empty vector.

Names of candidate proteins present in commensal strains								
Names of commensal strains		P264-1	P384	P759	P804	P891	P1569	P2232
	MLG_3119							
	MLG_2919							
	MLG_2719							
	MLG_2019							
	MLG_1619							
	MLG_5806							
	MLG_4206							
	MLG_3406							
	MLG_5213							
	MLG_0612							

Table S.1 Distribution of candidate protein-encoding genes among analyzed commensal strains of *C. perfringens*.

Name of candidate	Similarity (%) - DNA sequence	Similarity (%) - Protein sequence
P264-1	99%	98%
P384	99%	98%
P759	99%	100%
P804	99%	100%
P891	98%	98%
P1569	97%	99%
P2232	99%	99%
P153	Absent from commensal <i>C. perfringens</i> strains analyzed	
P264-2	Absent from commensal <i>C. perfringens</i> strains analyzed	
P537	Absent from commensal <i>C. perfringens</i> strains analyzed	
P509	Absent from commensal <i>C. perfringens</i> strains analyzed	
P561	Absent from commensal <i>C. perfringens</i> strains analyzed	
P1074	Absent from commensal <i>C. perfringens</i> strains analyzed	
P2091	Absent from commensal <i>C. perfringens</i> strains analyzed	

Table S.2. Name of candidate protein-encoding genes and the DNA and protein similarity percentage between *in silico* identified protein-encoding genes and amplicons derived from commensal *C. perfringens* strains.