Recombinant Haemonchus contortus HcES-15 (N-His)

Information

Gene ID	AY821552.1
Accession #	AAV84000.1
Alternate Names	15 kDa ES, 15 kDa excretory/secretory protein, rHcES-15
Source	E.coli
Protein sequence	MFFAFAVLLIALATREAYGSGNREMFENINKEYNTHLKWDDDLAAKA
Tag	N-His
M.Wt	Approximately 27.2 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. -3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0.3 mg/mL
Formulation	Supplied as a 0.2 μm filtered solution in PBS, pH7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Promotes goat IL-17, IL-1, TNF-α, IL-6, IL-12, and IFN-γ; inhibits goat IL-4 and TGF-β.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95 % by SDS-PAGE.
Endotoxin	Less than 1.0 EU/mg as determined by LAL method.

Description

Haemonchus contortus 15 kDa excretory/secretory protein (HcES-15) is a small molecule protein secreted by the barber pole worm. This protein belongs to the identified components of Haemonchus contortus excretory/secretory products (ESPs) and, together with Hc24 and Hc40, is regarded as an immunogenic component with vaccine development potential. Its functional research mainly focuses on the immunomodulatory activity of HcES-15: this protein can upregulate host IL-17, IL-4, and IL-10 production. The peptide ES15-1 designed based on HcES-15 can activate the STAT3/RORγt pathway in goat peripheral blood mononuclear cells (PBMCs) in vitro and induce IL-17 production; in goat immune protection experiments, PLGA-encapsulated ES15-1 reduced fecal egg counts by 69.0% and adult worm burden by 50.54%, demonstrating its potential as a candidate antigen for an anti-Haemonchus contortus vaccine. In addition, proteomic studies found that Hc15 exhibits extensive sequence variation in excretory/secretory products (multiple amino acid substitutions and differences in N-terminal cleavage), and different Hc15 isoforms are recognized by hyperimmune sera to significantly different degrees, suggesting that it may play a specific role during infection or immune evasion.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com

