

# Bulk Anti-Human Defensin-5 (8C8) Antibody

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## Product Benefits:

ichorbio's bulk anti-human defensin-5 antibody (8C8) is manufactured in a cGMP compliant, ISO Quality Standard 9001:2015 facility. ichorbio's low endotoxin antibodies have half the endotoxin of comparable antibodies from [Bio X Cell](#) at less than 1.0 EU/mg. If ichorbio's low endotoxin antibodies are not low enough we also offer ultra low endotoxin antibodies which have even less endotoxin (0.5EU/mg) at an even higher purity (98% versus 95%).  
ichorbio: the best antibodies for *in vivo* research.

## Target:

Defensin-5

## Clone:

8C8

## Isotype:

Mouse IgG2b ?

## Other Names:

DEFA-5, defensin, alpha 5, HD5

## Uniprot:

[Q01523](#)

## Host:

Mouse

## Species Reactivity:

Human

## Specificity:

Clone 8C8 recognizes human defensin 5

## Purification Method:

This monoclonal antibody was purified using multi-step affinity chromatography methods such as Protein A or G depending on the species and isotype.

## Antigen Distribution:

HD5 is highly expressed in the secretory granules of Paneth cells of the ileum.

## Background:

The colon lies adjacent to the small intestine and has heavy bacterial colonization from ingested food and water that is often contaminated with bacteria. Remarkably, the small intestine has a low microbial density. A special type of epithelial cell, called a Paneth cell, can be found clustered at the base of the tubular glands that lie between the villi of the inner surface of the small intestine. These cells secrete defensins which have been shown to have activity against both Gram-positive and Gram-negative microbes.<sup>3</sup> Six human  $\alpha$ -defensins, a subfamily of defensin peptides characterized by their cysteine spacing and disulfide connectivity<sup>2</sup>, have been identified. Human Paneth cells express  $\alpha$ -defensin 5 (HD5) along with HD6. Paneth cells are most numerous in the ileum and have many features similar to those of myeloid cells. They are multifaceted cells with a large quantity of apically-located eosinophilic secretory granules containing lysozyme and other antimicrobial factors which are released upon bacterial stimulation.<sup>2</sup> In addition, these cells express tumor necrosis factor alpha (TNF- $\alpha$ ), CD1, and CD15.<sup>1</sup> Paneth cells do not store defensins as fully processed or active peptides, rather they store them as inactive propeptides.<sup>2</sup> They are released as mature peptides after trypsin digestion. Trypsin is also secreted from the Paneth cell granules. It has been reported that disrupted  $\alpha$ -defensin processing in murine Paneth cells has initiated a vulnerability to enteric infection.<sup>2</sup> HD5 expression levels have been found to be negatively correlated to intestinal infection. Additionally, studies have shown HD5 to be a strong antagonist towards human Papillomavirus infection. Furthermore, low expression of HD5 is thought to play a role in Crohn's disease.<sup>3</sup> Anti-Human Alpha Defensin-5 (HD5) Clone 8C8 has been shown to recognize the propeptide and the partially processed forms of HD5. However, clone 8C8 has been reported to scarcely recognize the mature peptide. There was no reported cross reactivity with HD6, lysozyme, or sPLA<sub>2</sub>.

## Immunogen:

Recombinant Human HD5 (aa 20-94).

## Concentration:

1.0 mg/ml

## Formulation:

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (PBS) pH 7.2 - 7.4, 150 mM NaCl with no carrier protein, potassium or preservatives added. BSA and azide free

## Purity:

>95% by SDS-PAGE and HPLC

>98% by SDS-PAGE and HPLC

## Endotoxin:

? 1.0 EU/mg as determined by the LAL method

? 0.75 EU/mg as determined by the LAL method

**Aggregation:**

Aggregation level ? 5%

Aggregation level ? 8%

**IMPACT Pathogen Test:**

We use the IMPACT test generated by IDEXX Laboratories to guarantee our Ultra Low Endotoxin antibodies are pathogen free. Our mouse antibodies are tested for: Mycoplasma spp. Mycoplasma pulmonis Sendai virus Mouse hepatitis virus Pneumonia virus of mice Minute virus of mice Mouse parvovirus (MPV1-5) Theiler's murine encephalomyelitis virus Murine norovirus Reovirus 3 Mouse rotavirus Ectromelia virus Lymphocytic choriomeningitis virus Polyoma virus Lactate dehydrogenase-elevating virus Mouse adenovirus (MAD1, MAD2) Mouse cytomegalovirus K virus Mouse thymic virus Hantaan virus Corynebacterium bovis Corynebacterium spp. (HAC2)

**Storage:**

This antibody is stable for at least 4 weeks when stored at 2-8°C. For long term storage, aliquot in working volumes without diluting and store at -20°C or -80°C. Avoid repeated freeze thaw cycles.

**Applications:**

Dot Blot, ELISA, IHC (Paraffin), Western Blotting

**Application Notes:**

Each investigator should determine their own optimal working dilution for specific applications.

**Use:**

Products are for research use only.

**Alternative Names:**

- alpha 5 antibody
- DEF5 antibody
- DEF5\_HUMAN antibody
- Defa antibody
- Defa29 antibody
- DEFA5 antibody
- Defcr29 antibody
- Defcr5 antibody
- Defensin 5 antibody
- Defensin alpha 5 antibody
- Defensin alpha 5 Paneth cell specific antibody
- Defensin alpha 5 preproprotein antibody
- Defensin antibody
- Enteric defensin antibody

- HD 5 antibody
- HD5 antibody
- HD5(20-94) antibody
- HD5(63-94) antibody
- MGC129728 antibody
- RD 5 antibody