# CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

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| **Product name** | RNase 7, Human, clone 3C2 | | |
| **Catalog number** | HM2316 | | |
| **Lot number** | - | **Expiry date** | - |
| **Volume** | 1 ml | **Amount** | 100 µg |
| **Formulation** | 0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3 | **Concentration** | 100 µg/ml |
| **Host Species** | Mouse IgG1 | **Conjugate** | None |
| **Endotoxin** | N.A. | **Purification** | Protein G |
| **Storage** | 4°C | | |

## Application notes

| | IHC-F | IHC-P | IF | FC | FS | IA | IP | W |
|---|---|---|---|---|---|---|---|---|
| Reference # | | | | | | | | |
| Yes | ● | ● | | | | ● | | ● |
| No | | | | | | | | |
| N.D. | | | ● | ● | ● | | ● | |

*N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot*

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- W: A non-reduced and reduced sample treatment and SDS-Page was used.

## General Information

**Description** Monoclonal antibody 3C2 recognizes human RNAse7. Antimicrobial proteins (AMP) are a fundamental element of the primary response against pathogens. AMPs are small endogenous cationic molecules expressed by phagocytic and epithelial cells. The antimicrobial activity of AMPs is directed towards a broad spectrum of pathogens, like Gram-positive & negative bacteria, viruses, yeast and fungi. AMPs aid in innate and adaptive immunity via direct inactivation and by immunomodulatory activity like leukocyte migration. RNAse 7 is an protein secreted by a variety of epithelial tissues and is a member of the RNAse A superfamily. This family shares sequence and structural similarities such as conserved cysteine residues as well as conserved histidines and a lysine in the active center catalysing the ribonuclease activity. RNAse7 is a 14.5 KDa protein with distinct ribonuclease activity. However, the antimicrobial activity is independent form the ribonuclease activity which might be associated with antiviral activity. On a per molar basis, RNAse7 is one of the most potent AMP. RNAse7 contributes to the sterility in several systems. It is described to be important in sterility of the kidney and urinary tract as well as its contribution to the skin barrier protection. In the urinary system it is constitutively expressed by the intercalated cells in the renal collecting tubules and is present in the urine at such levels to kill bacteria at baseline. In the skin it contributes to control the growth of microorganisms on the skin surface, and the expression levels can be further induced under control of proinflammatory cytokines. The bactericidal activity of RNAse7 has been associated with its ability to bind and permeate the bacterial cell membrane. This requires clustering of lysine residues. RNAse7 is able to bind LPS and peptidoglycans. In ocular surface, signal transduction associated with RNAse7expression is mediated via MAPKs but not NF-κB signalling pathways. IL1β leads to an increased expression of RNAse7.

**Immunogen** Recombinant RNAse7 produced by CHO

**Aliases** RNAse7, Skin-derived antimicrobial protein 2, SAP-2

**Storage&stability** Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

**Precautions** For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

| Approved by Manager of QC | Date |
|---|---|
| Robbert Zwinkels | 16/03/2018 |

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.