

Buffer TAS 20X
Reference: TP10002

For research use only



Expiration date

2-8°C

Store at temperature range 2°C to 8°C

LOT

Lot number

REF

Reference number

S.A. of 729 885 € capital

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1 – INTRODUCTION

The Buffer TAS 20X is a binding buffer that enhances the ApoH protein attachment to **viruses**. The ApoH protein, also known as Apolipoprotein H or Beta-2 glycoprotein 1, is able to bind various micro-organisms, including **viruses** (1-2), fungi (3) and bacteria (4-6). This **multiplex affinity capture** method proves to be simple, soft and fast enough so that the micro-organisms retain their viability and infectivity. The captured micro-organisms **are concentrated and separated from potential inhibitors** and so become easier to identify/detect with increased sensitivity (7-10).

The Buffer TAS 20X is also recommended for the use of the synthetic Peps6 molecule derived from the ApoH protein.

2 – REAGENTS

REF TP10002 – Buffer TAS 20X

The Buffer TAS is a clear binding buffer concentrated 20X. Dilute with sterile osmosed water (not provided) before use.

3 – STORAGE

- Store at 2-8°C upon reception. Keep sterile.
- Unopened Buffer TAS remains stable at 2-8°C until the expiration date.
- Opened Buffer TAS, 20X concentrated or diluted to 1X, remains stable at 2-8°C until the expiration date when free of contaminations.
- After use, rapidly store at 2-8°C.

4 – SAFETY AND PRECAUTIONS

- For better stability, Buffer TAS must be handled with care to **avoid any contaminations**.
- The need for a **sterile work area** will be determined by the type of micro-organism and its use once captured (mandatory for culture).
- Reagents and specimens should be handled in accordance to good laboratory practices. Dispose of unused reagents, samples and wastes in accordance with local regulations.
- Do not use out-of-date reagent.

5 – INSTRUCTIONS FOR USE

First use: dilute Buffer TAS

Dilute Buffer TAS from 20X to 1X concentration in sterile osmosed water. For example, 1 mL TAS 20X + 19 mL water = 20 mL TAS 1X. Vortex.

For use with ApoH or Peps6 magnetic beads

- Dispense sample in a capture tube. Measure volume.
- Add 4 volumes of TAS 1X.
- Add 0.05 volumes Additive FS 100X (optional).
- Vortex sample diluted in capture buffer.
- Follow instructions for adding and processing beads.

Example:

1 mL sample + 4 mL TAS 1X + 50 µL FS 100X + 10 µL ApoH beads

For use with ApoH microplates

- Dispense 200 µL TAS 1X per well.
- Add up to 50 µL sample per well and mix by pipetting.
- Follow instructions for ELISA-type detection on ApoH microplates.

11 – TROUBLESHOOTING

Some guidelines are given below. Please contact our technical support for any remaining questions, for further information or for protocols tailored to your specific application:

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- Use sterile osmosed water for buffer dilution.
- Check that Buffer TAS is not contaminated.
- Check that Buffer TAS is diluted before addition in the sample. Check that efficient mixing was performed after dilution.
- Choose a test tube big enough to ensure correct agitation, for example: use a 1.5 mL tube for a 1 mL reaction.
- Use glass or polypropylene plastic tubes only, avoid polystyrene.
- Increase sample dilution to 10 times if detergents are present, such as 0.1% SDS or 3% CTAB.
- All TAS diluted samples should be rapidly put in contact with the ApoH protein or Peps6 molecule.

12 – BIBLIOGRAPHY

1. Stefas E et al. Human plasmatic apolipoprotein H binds human immunodeficiency virus type 1 and type 2 proteins. *AIDS Res Hum Retroviruses* 1997, 13(1):97-104.
2. Stefas I et al. Hepatitis B virus Dane particles bind to human plasma apolipoprotein H. *Hepatology* 2001, 33(1):207-17
3. Calvino JR et al. Use of magnetic nanoparticles for the specific separation and the molecular detection of micro-organisms on whole blood. ePoster for the 2015 ECCMID, Copenhagen, Denmark
4. Zhang L et al. Staphylococcus aureus expresses a cell surface protein that binds both IgG and beta2-glycoprotein I. *Microbiology* 1999, 145 (Pt1):177-83.
5. Agar C et al. β 2-glycoprotein I: a novel component of innate immunity. *Blood* 2011, 117(25):6939-47.
6. Bouma B. et al. Adhesion mechanism of human b2-glycoprotein I to phospholipids based on its crystal structure, *The EMBO Journal* 1999, 18 (19): 5166-5174.
7. Veas F et al. Apolipoprotein H, an acute phase protein, a performing tool for ultra-Sensitive detection and isolation of microorganisms from different origins. Ch. 2 pages 21-42 in « Acute phase proteins as early non-specific biomarkers of Human and veterinary diseases » 408 pages. Edited by Francisco Veas, 2011. Publisher InTech, Vienna, Austria and Rijeka, Croatia.
8. Adlhoch C et al. Highly sensitive detection of the group A Rotavirus using Apolipoprotein H-coated ELISA plates compared to quantitative real-time PCR. *Virology Journal* 2011, 8:63.
9. Stefas I et al. Interactions between Hepatitis C Virus and the Human Apolipoprotein H Acute Phase Protein: A Tool for a Sensitive Detection of the Virus. *PlosOne* 2015, Oct 26 (10):1-24.
10. Vutukuru MR et al. A rapid, highly sensitive and culture-free detection of pathogens from blood by positive enrichment. *J Microbiol Methods*. 2016 Dec; 131:105-109. doi: 10.1016/j.mimet.2016.10.008. Epub 2016 Oct 17.