Buffer TT 20X

Reference: TP10005

For research use only



Expiration date

Store at temperature range 2°C to 8°C

Lot number

REF Reference number



Increasing sensitivity, improving diagnostics

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1 - INTRODUCTION

The Buffer TT 20X is a binding buffer that enhances the Apolipoprotein H (ApoH) protein attachment to micro-organisms. The ApoH protein, also known as Beta-2 glycoprotein 1, is able to bind various micro-organisms, including viruses (1-2), fungi (3) and bacteria (4-6). The ApoH protein is also known as Apolipoprotein H or Beta-2 glycoprotein 1. Its poly-specific nature allows multiplexing of various micro-organisms. This 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 by the usual specific techniques, leading to a gain of sensitivity (7-10).

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

2 - REAGENTS

REF TP10005 – Buffer TT 20X



The Buffer TT is a clear binding buffer concentrated 20X. Dilute according to the instructions below.

3 - STORAGE

- Buffer TT may travel at ambient temperature without altering its function; store at 2-8°C upon reception.
- Buffer TT 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 TT must be handled with care to avoid any contaminations.
- The need for a **sterile work area** will be determined by the use of captured micro-organisms (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- Do not use out-of-date reagents.

5 - INSTRUCTIONS FOR USE

For use with ApoH or Peps6 magnetic beads:

- Dilute Buffer TAS 20X to 1X concentration in sterile osmosed water. Vortex.
- Dilute sample 5 fold in binding buffer: add 1 volume of sample
- + 4 volumes of Buffer TAS 1X + (1/20th) 0.05 volume of liquid Additive FS 100X. This Additive is not required for some viruses and must be left out for cell infection assays.
- Vortex sample after dilution. Follow instructions for beads.

For use with ApoH microplates:

- Dilute Buffer TT 20X to 1X concentration in sterile osmosed water. Vortex.
- Dilute sample 10 fold in diluted Buffer TT: 1 volume sample + 9 volumes 1X diluted Buffer TT.
- Vortex sample after dilution. Follow instructions for 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 TT is not contaminated.
- Check that Buffer TT 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.
- According to the micro-organism or the sample, the choice and the quantity of capture buffer may be optimized.

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12 - BIBLIOGRAPHY

- 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
- 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
- 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.
- Agar C et al. β2-glycoprotein I: a novel component of innate immunity. Blood 2011, 117(25):6939-47.
- 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-specfic biomarkers of Human and veterinary diseases » 408 pages. Edited by Francisco Veas, 2011. Publisher InTech, Vienna, Austria and Rijeka, Croatia.
- 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.
- 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.

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