THE PROTEASOME CENTER

+972-52-5552798
golan.amnon@gmail.com
www.proteasome.net

Certificate of Analysis

Immunoproteasome 20S (Untagged, Human)

For research use only

Product Details

Scientific Background

The 20S Immunoproteasome is a modified form of the constitutively active 20S Proteasome core particle and is the catalytic subunit of the multi-complex Immunoproteasome. The structure of the 20S Immunoproteasome is similar to the 20S Proteasome, which is composed of 28 non-identical subunits arranged into four stacked rings. However, during 20S Immunoproteasome assembly, the three catalytic beta subunits, beta 1, 2, and 5, in the two interior rings of the 20S Proteasome are replaced by three IFN-gamma-inducible catalytic subunits: beta 1i/LMP2, beta 2i/LMP7, and beta 5i/MECL-1. The 20S Immunoproteasome is commonly associated with the 19S, PA28 alpha/beta, or the PA28 gamma regulatory complexes. 20S Immunoproteasome expression is enriched in antigen presenting cells of the immune system where the 20S Immunoproteasome selectively degrades intracellular proteins in a manner that optimizes the generation of peptides for MHC class I antigen presentation. Selective inhibition of 20S Immunoproteasome proteolytic activity using small molecule inhibitors is being examined for therapeutic intervention in cancer and inflammatory diseases.

Source: Purified from the human spleen by fractionation. Untagged. Soluble and homogenous. All starting material has been tested and found to be negative for hepatitis B surface antigen, human immunodeficiency virus type 1 antigen, antibodies against human immunodeficiency viruses type 1 and 2, and hepatitis C virus.

Formulation: Liquid. In TEAD buffer (20mM TRIS/HCl, 1mM sodium azide, 1mM DTT, pH 7.4). Contains 50% glycerol.

Purity: >95%, by SDS-PAGE.

Shipping: Shipped on Dry Ice.

Long Term Storage: -80°C.

Use/Stability: Once thawed the material can be stored at +4°C for up to 3 months, or long term at -20°C. The Human 20S Immunoproteasome is able to degrade substrates in an ATP independent manner. It can be activated chemically with SDS (0.035%) or by the addition of PA28. Reaction conditions will need to be optimized for each specific application. We recommend an initial Human 20S Immunoproteasome concentration of 0.5-5 nM.

+972-52-5552798
golan.amnon@gmail.com
www.proteasome.net

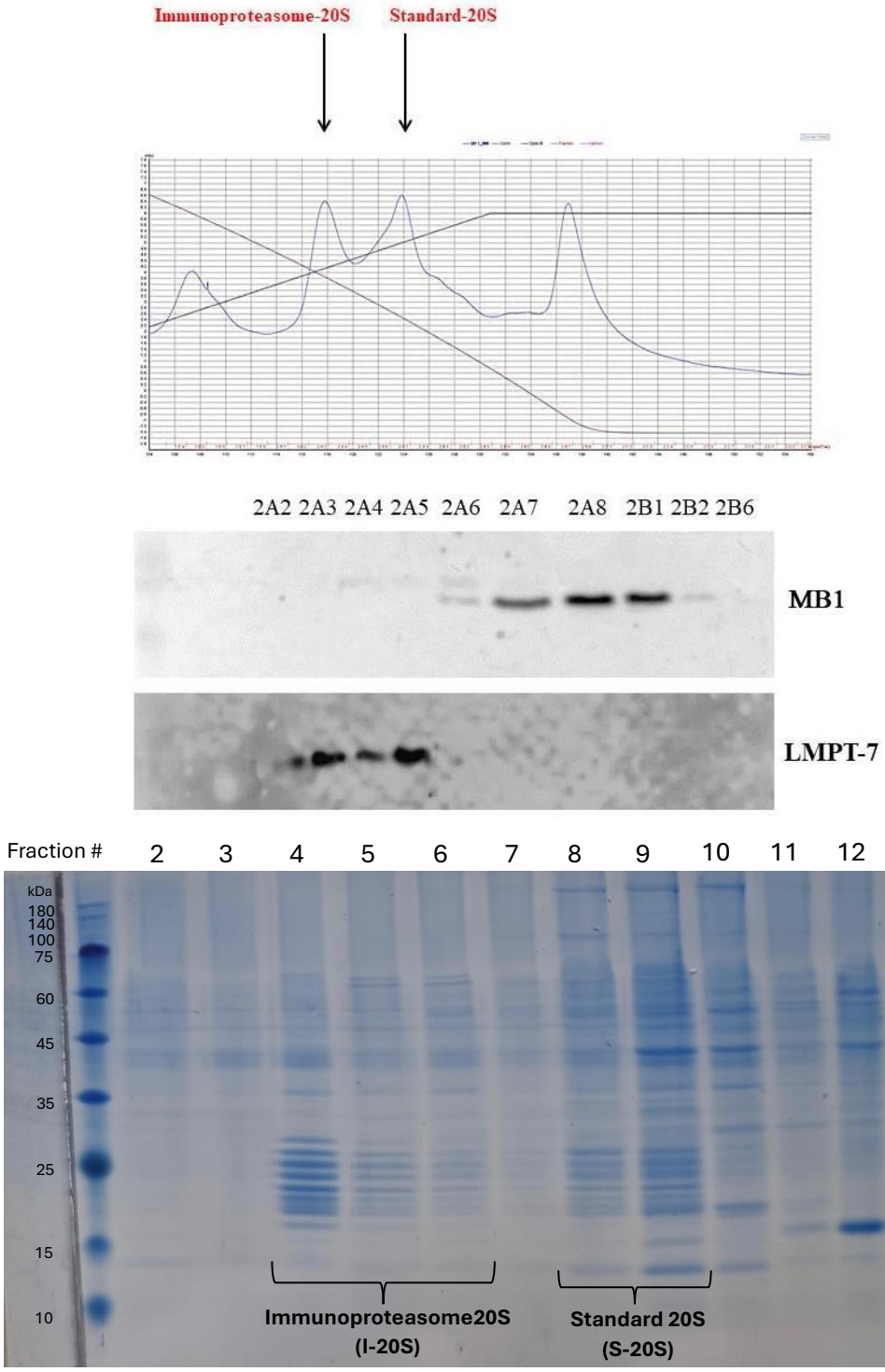

Figure 1. 20S immunoproteasome purified from the human spleen. Human 20S immunoproteasomes were separated from standard 20S to apparent homogeneity **(A)** Chromatogram depicting the separation. **(B)** Immunoblotting of immunoproteasome 20S (LMPT-7) and standard 20S (MB1). **(C)** Coomassie stained 12% SDS-PAGE following a final polishing step. A complete separation between immunoproteasome 20S (I-20S) and standard 20S (S-20S) from human spleen tissue is achieved.