Systems And Methods For Performing Peptide Exchange Reactions Using Placeholder Peptides And Catalytic Amounts Of The Molecular Chaperone TAPBPR

Tech ID: 33064 / UC Case 2020-297-0

BACKGROUND

Tech ID 32985/Case number 2018-408 describes the generation of E. coli expressed, peptide receptive MHC-I monomers and multimers using the TAPBPR chaperone.

In this case, the technology was improved based upon the surprising discovery that the TAPBPR chaperone acts catalytically on MHC-I-placeholder peptide complexes to create peptide receptive MHC-I species.

TECHNOLOGY DESCRIPTION

Technology is identical to that described in 2018-408-0, except that the ratio of TAPBPR to MHC-I-placeholder peptide complex is less than 1:1. As low as a 1:10,000 ratio of TAPBPR to MHC-I placeholder peptide can be used without an effect on the overall reaction time.

APPLICATIONS

Peptide receptive MHC-I multimer reagents

MHC-I reagents

Identifying antigenic peptides

Identifying and purifying T cell populations

ADVANTAGES

Improved cost effectiveness of making MHC Class I reagents because less of the TAPBPR component needs to be made.

Additional patent claims close off potential loophole in coverage

INTELLECTUAL PROPERTY INFORMATION

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INVENTORS

▶ Sgourakis, Nikolaos

OTHER INFORMATION

KEYWORDS

MHC-I, Class I MHC, Antigenic Peptide, Peptide Receptive MHC, MHC multimers, MHC tetramers, MHC reagents, Major Histocompatibility Complex, Class I, Chaperone, TAPBPR, Catalytic TAPBPR

CATEGORIZED AS

▶ Materials & Chemicals
▶ Biological
▶ Research Tools
▶ Reagents

RELATED CASES

2020-297-0, 2018-408-0, 2020-251-0, 2020-284-0, 2019-975-0
RELATED MATERIALS

- Molecular determinants of chaperone interactions on MHC-I for folding and antigen repertoire selection - 12/17/2019

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Systems And Methods For Generating Peptide Deficient Hla-A*68:02 And Hla-A*24:02 Molecules
- SYSTEMS AND METHODS FOR IDENTIFICATION OF MHC-I PEPTIDE EPITOPES USING MULTIPLEXED PEPTIDE RECEPTIVE MHC-I/CHAPERONE COMPLEXES