

IPD Project Details

Project ID: IPD6038

Project Title: *Candida glabrata* GPI-anchored cell surface associated aspartyl protease CgYps1 and CgYps7 interactome analysis in the total cell extracts of A-498 human renal epithelial cell line

Description: The project is aimed at identifying host epithelial proteins that interact with two different cell-surface associated aspartyl proteases (CgYps1 and CgYps7) in *Candida glabrata* cells.

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Sample Preparation: For identification of A-498 epithelial cell proteins that interact with CgYps1 or CgYps7, affinity-purification-mass spectrometry approach was used. Briefly, *E. coli*-purified CgYps1 and CgYps7 proteins (250 µg) were incubated overnight with 100 µl TALON beads at 4°C on an end-to-end rotor. A-498 cells were grown in MEM in 10 cm culture dishes to 80% confluency, followed by cell collection and lysis in NETN buffer. Cell lysates (2 mg protein) were pre-cleared with NETN buffer-equilibrated TALON beads for 2 h at 4°C and centrifuged. The supernatants were divided into two fractions. One fraction was incubated with NETN buffer pre-equilibrated beads as control, and the other fraction was incubated with TALON beads-conjugated with CgYps1/CgYps7 proteins. After overnight incubation at 4°C, beads were centrifuged at 1500 rpm for 2 min, and washed four times with NETN buffer containing 25 mM imidazole, followed by boiling and resolving of bead-bound proteins on 12 % SDS-PAGE. Gel was run for a short duration, till the dye front entered the resolving gel. The gel was stained with coomassie brilliant blue, and protein-containing gel bands were excised and sent to the Taplin Biological Mass Spectrometry Facility, Harvard Medical School, Boston, USA (<https://taplin.med.harvard.edu>) for protein identification using LC-MS/MS (liquid chromatography-mass spectrometry) analysis. Samples from two biological replicates for each condition were prepared and analyzed.

Peptide Separation: At the Taplin facility, gel pieces were subjected to in-gel trypsin digestion, followed by microcapillary LC-MS/MS (Liquid chromatography-tandem mass spectrometry) using the LTQ Orbitrap Velos Pro ion-trap mass spectrometer. Samples

with the search name 86123-86124 (Search ID 66265 and 66264) refer to Talon beads control incubated with pre-cleared A-498 cell lysates; replicate 1 and 86125-86126 (Search ID 66263 and 66268) refer to Talon beads control incubated with pre-cleared A-498 cell lysates; replicate 2. Samples 86127-86129 (Search ID 66267, 66291 and 66290) were pre-cleared A-498 cell lysates incubated with rCgYps1 protein; replicate 1, while 86130-86132 (Search ID 66289, 66288 and 66287) refer to pre-cleared A-498 cell lysates incubated with rCgYps1 protein; replicate 2. Samples 86133-86135 (Search ID 66286, 66285 and 66284) refer to pre-cleared A-498 cell lysates incubated with rCgYps7 protein; replicate 1, while 86136-86138 (Search ID 66325, 66324 and 66323) indicate to pre-cleared A-498 cell lysates incubated with rCgYps7 protein; replicate 2.

Protein Characterization: All generated fragmentation patterns were acquired and searched against the UniProt Human reference proteome database using the SEQUEST software to determine the peptide sequences. 1% false discovery rate.

Experiment Type: Gel-based experiment, Affinity purification coupled with mass spectrometry proteomics

Species: Data in species_details No Data

Tissue: Data in tissue_details No Data

Cell Type: Data in cell_details No Data

Disease: Unknown No Data

Instrument Details: Data in instrument_details Data in instrument_details

Protein Modifications: iodoacetamide derivatized residue

PubMed ID: