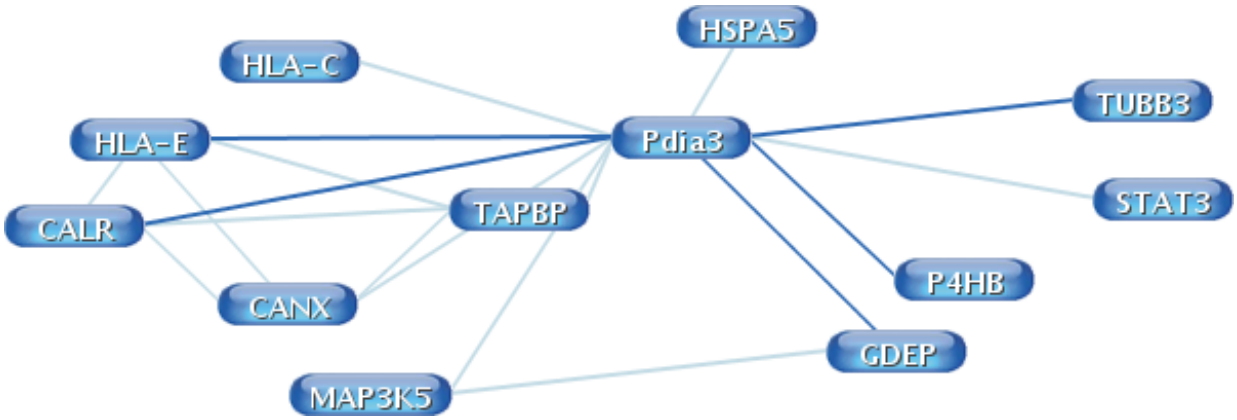


Role of ERp57 [PDIA3] in the signaling and transcriptional activity of STAT3 [STAT3] in a melanoma cell line. 19995546

The Stat3 [STAT3] and GRP58 [PDIA3]-containing plasma membrane fraction also contained Stat1, Stat5b, and gp130. 12060494

Using differential sedimentation and density equilibrium flotation methods, Stat3 [STAT3] and GRP58 [PDIA3] were observed to be coassociated with cytoplasmic membranes enriched for the plasma membrane marker 5' nucleotidase but not with those containing the endoplasmic reticulum marker BiP/GRP78. 12060494

We suggest that the chaperone GRP58 [PDIA3] may **regulate** signaling by sequestering inactive and **activated** Stat3 [STAT3]. 12060494

Chromatin immunoprecipitation in M14 melanoma cells showed that the protein ERp57 [PDIA3] (endoplasmic reticulum protein 57) **binds** to DNA in the proximity of STAT3 [STAT3] in a subset of STAT3 [STAT3]-regulated genes. 19995546

Both cytosolic Stat3 [STAT3] and GRP58 [PDIA3] eluted during Superose-6 gel-filtration chromatography in complexes of size 200-400 kDa (statosome I), and anti-Stat3 [STAT3] pAb cross-immunoprecipitated GRp58 from these FPLC elution fractions. 12060494

Upon depletion of ERp57 [PDIA3] by RNA interference, the phosphorylation of STAT3 [STAT3] on tyrosine [?] 705 was decreased, and the IL-6-induced activation of CRP expression was completely suppressed. 19995546

Association of the chaperone glucose-regulated protein 58 (GRP58 [PDIA3]/ER-60 [PDIA3] /ERp57 [PDIA3]) with Stat3 [STAT3] in cytosol and plasma membrane complexes. 12060494

Likewise, excess exogenous recombinant human GRP58 [PDIA3] prepared using a baculovirus expression system preferentially **inhibited** Stat3 [STAT3] DNA-binding activity in the S100 cytosol, suggesting that GRP58 [PDIA3] may sequester **activated** Stat3 [STAT3]. 12060494

The new data confirm the association between GRP58 [PDIA3] and Stat3 [STAT3] in cytosolic 200-400-kDa statosome I **complexes** and show that both GRP58 [PDIA3] and Stat family members coassociate in the plasma membrane compartment. 12060494

In the S100 cytosol fraction, three different anti-GRP58 [PDIA3] polyclonal antibodies (pAb) cross-immunoprecipitated Stat3 [STAT3] (but not Stat1), and, conversely, anti-Stat3 [STAT3] pAb cross-immunoprecipitated GRP58 [PDIA3]. 12060494

In vitro experiments showed that ERp57 [PDIA3] is also required for the **binding** of STAT3 [STAT3] to its consensus sequence on DNA. 19995546

Thus ERp57 [PDIA3], previously shown to associate with STAT3 [STAT3] in the cytosol and in the nuclear STAT3 [STAT3]-containing enhanceosome, is a necessary cofactor for the regulation of at least a subset of STAT3 [STAT3]-dependent genes, probably intervening both at the site of STAT3 [STAT3] phosphorylation and at the nuclear level. 19995546

In the present study, the association between GRP58 [PDIA3] and Stat3 [STAT3] in different cytoplasmic compartments was evaluated using cross-immunoprecipitation and cell-fractionation techniques. 12060494

The HLA-C [HLA-C] specific receptors are represented by two 58 Kd (p58 [PDIA3]) molecules that are highly homologous, as shown by both biochemical analysis and by the comparison of the corresponding genes. 7579196

Calnexin [CANX] and ERp57 [PDIA3] facilitate the assembly of the neonatal Fc receptor for IgG with beta 2-microglobulin in the endoplasmic reticulum. 16002696

ERp57 [PDIA3] was found to **interact** with class III beta-tubulin (TUBB3 [TUBB3]), involved in paclitaxel [?] resistance in ovarian and other cancers. 19714814

We found that ERp57 [PDIA3] **binds** to the P-domain of calreticulin [CALR], an independently folding domain comprising residues 189-288. 11842220

In addition, ER-60 [PDIA3] is part of the late assembly **complexes** consisting of MHC [HLA-E] class I, tapasin [TAPBP], TAP, calreticulin [CALR] and calnexin [CANX]. 9545232

Our results clearly show that ERp57 [PDIA3 / Pdia3] must be physically **associated** with the calnexin [CANX] cycle to catalyze isomerization reactions with most of its substrates. 19054761

Tapasin [TAPBP] and ERp57 [PDIA3] form a stable disulfide-linked dimer within the MHC class I peptide-loading complex. 16193070

We examined interactions between the endoplasmic reticulum (ER) chaperones calnexin [CANX] (CN [CANX]), ERp57 [PDIA3], and immunological heavy chain-binding protein (BiP) and nicotinic acetylcholine receptor (nAChR) subunits. 17728248

A ternary complex between heavy chain, ERp57 [PDIA3], and tapasin [TAPBP] was observed and shown to be **stabilized** by a disulfide between both tapasinheavy chain and tapasin [TAPBP] -ERp57 [PDIA3]. 18039656

On the basis of these data, we propose a model where the region of ERp57 [PDIA3] equivalent to the primary substrate **binding site** of archetypal PDI [P4HB] is occupied by calreticulin and suggest that the ER lectins act as adaptor molecules that define the substrate specificity of ERp57 [PDIA3]. 14871899

Specific ERp57 [PDIA3]/calreticulin [CALR] complexes exist in canine pancreatic microsomes, as demonstrated by SDS-PAGE after cross-linking, and by native electrophoresis in the absence of cross-linking. 10436013

ER-60 [PDIA3] is a thiol oxidoreductase family protein of the endoplasmic reticulum that facilitates the oxidative folding of glycoproteins via interaction with calnexin [CANX] (CNX [CANX]) and calreticulin [CALR] (CRT [CALR]). 15236594

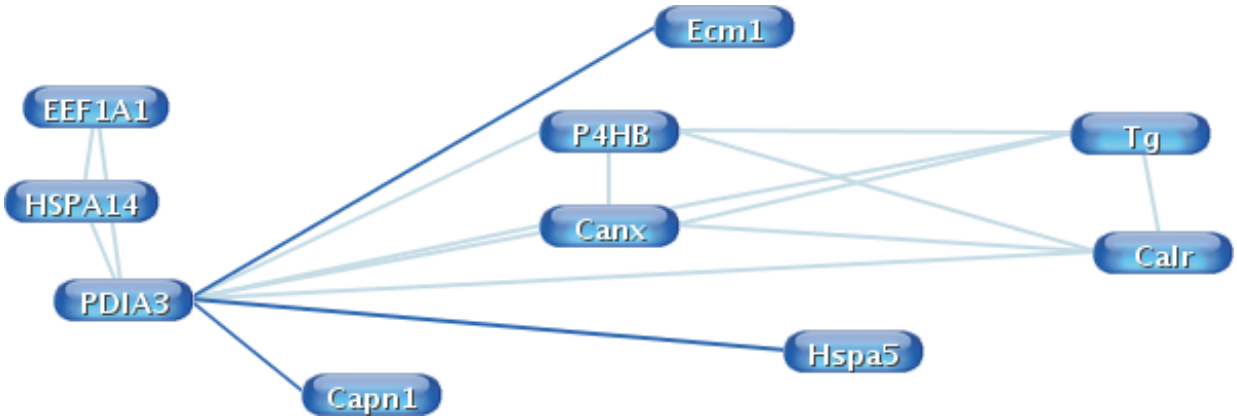
We conclude that ERp57 [PDIA3] forms **complexes** with both calnexin [CANX] and calreticulin [CALR] and propose that it is these complexes that can specifically modulate glycoprotein folding within the ER lumen. 10436013

ERp57 [PDIA3] **functions** as a subunit of specific **complexes** formed with the ER lectins calreticulin [CALR] and calnexin [CANX]. 10436013

Furthermore, the thiol oxidoreductase ERp57 [PDIA3] was detected in FcRn-CNX [CANX] complexes, suggesting its role in disulfide bond formation of the FcRn H chain. 16002696

The genes MAP3K5 [MAP3K5] and PDIA3 [PDIA3] are **associated** with malignant stages of prostate cancer [GDEP] and therefore provide novel potential biomarkers. 20035634

Here, we analyzed the cooperation of ER-60 [PDIA3] and BiP [HSPA5] in the oxidative refolding of denatured proteins in vitro. 16428306



ERp57 [Pdia3]-**associated** mitochondrial micro-calpain [Capn1] truncates apoptosis-inducing factor. 18559257

1,25-Dihydroxy vitamin D3 is an autocrine regulator of extracellular matrix [ECM1 / Ecm1] turnover and growth factor **release** via ERp60 [Pdia3]-activated matrix vesicle matrix metalloproteinases. 18765931

Using peptide mass fingerprinting by matrix-assisted laser desorption/ionization-time of flight mass spectrometry, we identified five of these spots as protein disulfide isomerase A3 [PDIA3 / Pdia3] (PDA3 [PDIA3 / Pdia3]), one as 60 kDa heat shock protein (HSP60 [HSPA14]) and two as elongation factor Tu [Eef1a1 / EEF1A1] (EF-Tu [Eef1a1 / EEF1A1]). 12872233

Mixed-disulfide folding intermediates between thyroglobulin [Tg / TG] and endoplasmic reticulum resident oxidoreductases ERp57 [Pdia3] and protein disulfide isomerase [P4hb / P4HB]. 16260597

Overexpression of ERp57 [PDIA3 / Pdia3] also augmented tunicamycin [?]-**induced** caspase-3 activation and reduced BiP [HSPA5 / Hspa5]/GRP78 [HSPA5 / Hspa5] induction. 19411306

These data point towards mixed disulfides with the ERp57 [Pdia3] oxidoreductase in conjunction with calreticulin [Calr]/calnexin [Canx] chaperones acting as normal early Tg [Tg / TG] folding intermediates that can be "substituted" by PDI [P4hb / P4HB] adducts only at the expense of lower folding efficiency with resultant ER stress. 16260597