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Peroxiredoxin 6 in the repair of peroxidized cell membranes and cell signaling

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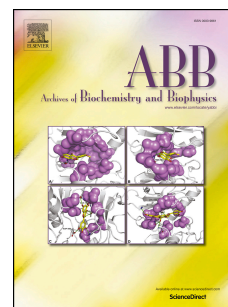
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Peroxiredoxin 6 in the repair of peroxidized cell membranes and cell signaling

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Running Title: Peroxiredoxin 6

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Highlights:

- Prdx6 expresses peroxidase, phospholipase A₂, and lysophosphatidylcholine acyl transferase activities;
- Peroxidase activity of Prdx6 can reduce phospholipid hydroperoxides as well as H₂O₂;
- Reduction and resolution of oxidized Prdx6 is mediated by GSH catalyzed by GSH S-transferase π ;
- Prdx6 can: a) reduce or b) hydrolyze and reacylate peroxidized phospholipids making it a complete enzyme for repair of peroxidized cell membranes;
- Prdx6 participates in the synthesis and degradation of cellular phospholipids;
- Prdx6 generates the lysophosphatidic acid that results in mobilization of *rac* in the pathway for activation of NADPH oxidase (type 2).

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