# Proteomic toolbox to standardize the separation of extracellular vesicles and lipoprotein particles.

<table>
<thead>
<tr>
<th>Title</th>
<th>Proteomic toolbox to standardize the separation of extracellular vesicles and lipoprotein particles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication Type</td>
<td>Journal Article</td>
</tr>
<tr>
<td>Year of Publication</td>
<td>2018</td>
</tr>
<tr>
<td>Authors</td>
<td>Wang, T, Turko, IV</td>
</tr>
<tr>
<td>Journal</td>
<td>J Proteome Res</td>
</tr>
<tr>
<td>Date Published</td>
<td>2018 Aug 06</td>
</tr>
<tr>
<td>ISSN</td>
<td>1535-3907</td>
</tr>
<tr>
<td>Abstract</td>
<td>Circulating in blood, extracellular vesicles (EVs) and lipoprotein particles (LPs) have diagnostic and prognostic value. benches and tools have been developed to separate EVs and LPs. However, a lack of standardized methods makes the comparison of results across laboratories difficult. Here we describe a proteomic toolbox to standardize the separation of EVs and LPs from serum. The toolbox contains dual-detection markers, conjugated beads, and beads made from different resins with varying densities. The toolbox was used to test the performance of size exclusion chromatography, heparin-Sepharose, lipopolysaccharide-Sepharose, (2-hydroxypropyl)-β-cyclodextrin-Sepharose, and concanavalin A-Sepharose in separating serum EVs and LPs. The efficiency of a resin to separate EVs and LPs was evaluated using a dual-detection marker system. Collectively, these components provide a useful reference to evaluate EVs separation protocols. Further, the toolbox provides a platform for future evaluation of EVs separation protocols.</td>
</tr>
<tr>
<td>DOI</td>
<td>10.1021/acs.jproteome.8b00225</td>
</tr>
<tr>
<td>Alternate Journal</td>
<td>J. Proteome Res.</td>
</tr>
<tr>
<td>PubMed ID</td>
<td>30080417</td>
</tr>
</tbody>
</table>