**Supplement Figure legends**

**Supplement figure** Progress and allocation to diet

Supplement figure

Male SD rats (n=70)

- Basic diet (6 weeks, n=9)
- HFD (6 weeks, n=61)
  - Obese rats were selected (n=36)
  - Basic diet (10 weeks, n=9)
  - HFD+0.5% α-AIE (10 weeks, n=9)
  - HFD+1.0% α-AIE (10 weeks, n=9)
  - HFD+1.5% α-AIE (10 weeks, n=9)

- Normal
- L-α-AIE
- M-α-AIE
- H-α-AIE
- Obese
## Supplement table Experimental diets for rats in different group

<table>
<thead>
<tr>
<th>Diet (g/100g dried feed)</th>
<th>Normal group</th>
<th>L-α-AIE</th>
<th>M-α-AIE</th>
<th>H-α-AIE</th>
<th>Obese group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic diet*</td>
<td>100.00</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>HFD*</td>
<td>--</td>
<td>99.50</td>
<td>99.00</td>
<td>98.50</td>
<td>100.00</td>
</tr>
<tr>
<td>α-AIE</td>
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<td>0.50</td>
<td>1.00</td>
<td>1.50</td>
<td>--</td>
</tr>
</tbody>
</table>

*Basic diet and HFD were commercially available. Abbreviations: HFD, 45% high-fat diet; α-AIE, α-α-amylase inhibitor extracts from common bean; L-α-AIE, low dose of α-AIE group; M-α-AIE, medium dose of α-AIE group; H-α-AIE, high dose of α-AIE group;