DONKEY MILK AS A FUNCTIONAL FOOD
Clara Navarro Bría - Call June 2016

Hypothesis and goals
Recording the status of donkey milk as a functional food by its distinctive features in composition and properties could provide health benefits to the consumer. The most important features are:
- Hypoallergenic protein features
- Protection against bacterial and viral capacity modulation of the growth of the intestinal flora
- Antimicrobial action and the ability to improve treatment of immunological diseases
- Prevention of cardiovascular disease by essential fatty acids

Introduction
Functional foods are a large and diverse group of foods that provide a benefit to health beyond basic nutrition.

Gross composition of mature milk from different mammals

<table>
<thead>
<tr>
<th>SPECIES</th>
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<th>DONKEY</th>
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<th>COW</th>
<th>BUFFALO</th>
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<td>Total dry matter (g/l)</td>
<td>107-129</td>
<td>88-117</td>
<td>93-116</td>
<td>181-200</td>
<td>157-172</td>
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<td>Proteins (g/l)</td>
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<td>Fat (g/L)</td>
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<td>3-18</td>
<td>3-42</td>
<td>33-54</td>
<td>53-90</td>
</tr>
<tr>
<td>Lactose (g/l)</td>
<td>63-70</td>
<td>58-74</td>
<td>56-72</td>
<td>44-56</td>
<td>32-49</td>
</tr>
<tr>
<td>Ash (g/l)</td>
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<td>7-8</td>
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<td>Energy (kj/l)</td>
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INFANTS WITH FOOD ALLERGIES
Cows’ milk protein allergy (CMPA)
- Nowadays prevalence 3%,
- ↑ Lactose:
  - Palatability
  - Optimising the intestinal absorption of calcium
- ↓ Caseins:
  - Hypoallergenic feature because of the whey proteins content

FUNCTIONAL ASPECTS

ENVIRONMENTAL ADVANTAGES
- Biodiversity
- Expansion of production
- Maintaining forested areas
- Low fire risks
- Stability in the ground
- Km0
- Rural tourism

GOOD SOURCE OF MINERALS
- Contains three times more than cow’s milk

ANTIMICROBIAL ACTION
- ↑ Content in lysozime and lactoferrin
- Low microbial count
- Inhibitory capacity of milk against bacterial species
- Promotes the body's immune activity

CONCLUSIONS
- This confirms the hypothesis. You can consider donkey milk as a functional food by their distinctive features in composition and the beneficial properties provided to consumer health. So this review concludes:
- On the composition similar to human milk and low allergenicity food is a good alternative in children allergic to cow's milk protein.
- For lactose high amount and therefore the capacity modulation of the growth of the intestinal flora offers protection against bacterial and viral infections.
- The high lysozyme content provides antimicrobial action in donkey milk, which is applicable in immunological diseases and treatments affect the ability of these improvements.