

Highlights

- The ORF of *Cadherin 2*(*OnCdh2*) and *Cadherin 4*(*OnCdh4*) from Nile tilapia, *Oreochromis niloticus* were cloned and characterized.
- *OnCdh2* and *OnCdh4* distributed in all examined tissues.
- The expression level of *OnCdh2* and *OnCdh4* were rapidly activated at 1 h in brain, intestine and spleen after challenged by *Streptococcus agalactiae*.
- *OnCdh2* and *OnCdh4* may be involved in the invasion of *Streptococcus agalactiae*.