Curriculum vitae J. Luirink

Place/Date of birth:	Amsterdam (Netherlands) / 20 June 1960
Education:	Masters degree: Medical Biology, VU University Amsterdam (VUA), (Fac. of Biology, VUA) 1984 PhD 1989 (Fac. Biology, VUA)
Stays abroad:	University of Health Sciences, Bethesda, U.S.A., 1986 with Prof. dr. H.C.Wu EMBL, Heidelberg, Germany, 1991-1992 with Prof. Dr. B. Dobberstein
Current position:	Associate Professor and group leader, Faculty of Earth and Life Sciences, dept. Molecular Microbiology, VUA

Research interests:
1. Protein targeting to and translocation of proteins across the inner and outer membrane of *E. coli*. Topics under investigation are: fundamentals of targeting pathway specificity in *E. coli*, heterologous protein secretion in *E. coli* and secretion of virulence factors via the autotransporter pathway.
2. Biogenesis of membrane proteins (*E. coli*). The targeting, insertion, assembly and quality control of inner membrane proteins is studied using both *in vivo* and *in vitro* approaches. The fundamental knowledge obtained is used to optimize heterologous membrane protein expression.
3. Secretion of PE/PPE type virulence factors by Mycobacterium species.

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Expertise of the Research group headed by dr. J. Luirink (presently consisting of 4 post-docs, 3 PhD students and 2 technicians): more than 15 years experience in microbial molecular biology particularly the expression, membrane assembly and secretion of (heterologous) proteins in bacteria. The laboratory has much experience in a variety of molecular biological, biochemical and cell biological techniques with a special focus on *in vitro* expression/translocation assays and with (photo-) crosslinking to establish interactions during biogenesis and membrane transport.

List of recent publications

1. Yu Z., Koningstein G., Pop A. and J. Luirink. 2008. The conserved third transmembrane segment of YidC contacts nascent Escherichia coli inner membrane proteins. **J. Biol. Chem.**, in press.

2. Van Bloois E., Dekker H.L., Fröderberg L., Houben E.N., Urbanus M.L., de Koster C.G., de Gier J.W. and J. Luirink. 2008. Detection of cross-links between FtsH, YidC, HflK/C suggests a linked role for these proteins in quality control upon insertion of bacterial inner membrane proteins. **FEBS Lett.**, in press.

3. Wagner S., Pop O., Haan G.J., Koningstein G., Klepsch M.M., Genevaux P., Luirink, J., and J.W. de Gier. 2008. Biogenesis of MalF and the MalFGK(2) maltose transport complex in Escherichia coli requires YidC. **J. Biol. Chem.**, 283:17881-1790.

4. Jong W.S.P. and J. Luirink. 2008. The conserved extension of the Hbp autotransporter signal peptide does not determine targeting pathway specificity. **Biochem. Biophys. Res. Commun.** 368:522-527.

5. Van Bloois E., ten Hagen-Jongman C.M. and J. Luirink. 2008. Flexibility in targeting and insertion during bacterial membrane protein biogenesis. **Biochem. Biophys. Res. Commun.** 362:727-33.

6. Sijbrandi R., Stork M., Luirink, J., and B.R. Otto. 2008. Pbp, a cell-surface exposed plasminogen binding protein of Bacteroides fragilis. **Microbes Infect.** 10: 514-521.

7. Jong W.S.P., ten Hagen-Jongman C.M., den Blaauwen T., Slotboom D.J., Tame J.R., Wickstrom D., de Gier J.W., Otto B.R. and J. Luirink. 2007. Limited tolerance towards folded elements during secretion of the autotransporter Hbp. **Mol. Microbiol.** 63:1524-1536.