development over the 10 wks before term equivalent age in preterm infants. 

Methods 35 infants (GA: 27.1 ± 0.7; BW: 937 ± 172) without morphee, were monitored with EEG/aEEG. Three periods were selected at 20–24 h, 32–36 h, 44–48 h. Minimum amplitude, % of time 

Results Increased SATrate was positively associated with del-

Results of time 

Min aEEG and % of time 

premature population should be regarded as one of the most 

do frequently not meet the highest standards possible. Hence the 

event neonatal DTI research groups. In addition, described settings 

completely in current literature, and vary considerably among differ-

In particular preterm neonates, suffer a high frequency 

of microbial infections. MAIT cells are innate-like T cells expressing a semi-invariant Vα7.2-Jα33 TCR which recognises MIR1-restricted, microbial-derived riboflavin (vitamin B2) metabolites unique to bacteria and yeast. 

We studied 151 newborns admitted in the Neonatology Depart-

ment at Robert Debré Hospital divided into four groups according to gestational age (group 1: 24–27 wks; group 2: 28–31 wks; group 3: 32–36 wks; group 4: >37 wks). The rate and kinetics of MAIT cell expansion and maturation were determined longitudinally at birth (day 0), day 3, day 30 and day 60. We performed multiparametric 10-colour flow cytometry analyses using combinations of antibodies to CD45, CD3, CD4, CD8, TCR Vα7.2, CD161, CD45RA, TCR Vα24 and TCRγ6 on 100 ml residual whole blood (left over of blood count), allowing characterisation of MAIT cells in parallel with other non-conventional and conventional T cells. 

Our results show that the frequency of MAIT at birth is low and 

significantly differs according to gestational age (median at D0 group 1: 0.21%; group 2: 0.14%; group 3: 0.12%; group 4: 0.06%). 

Of note, this frequency remains relatively stable over the first 2 months of life. However, the phenotype of MAIT cell changes after birth with rapid maturation and increased proportion of CD8α cells. Significant difference was observed between high preterm neo-

nates with and without maternal infection. Analysis of MAIT cell frequency in 20 twin pairs showed it was very similar, suggesting that it might be controlled by a genetic and/or early environmental factor. 

In conclusion, the frequency of MAIT cells at birth is inversely 

correlated with gestational age, and is correlated with the presence of maternal infection microbial infection in preterm neonates. Whether it may reflect the passage of microbial products in amniotic liquid, 

and/or differences in the gut microbiota immediately after birth is under investigation.

Neonatal Immunity 

O-064 DEVELOPMENT AND MATURATION OF MAIT CELLS IN HUMAN NEONATES: RELATIONS WITH GESTATIONAL AGE AND MICROBIAL INFECTION 

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Newborns, in particular preterm neonates, suffer a high frequency of microbial infections. MAIT cells are innate-like T cells expressing a semi-invariant Vα7.2-Jα33 TCR which recognises MIR1-restricted, microbial-derived riboflavin (vitamin B2) metabolites unique to bacteria and yeast.