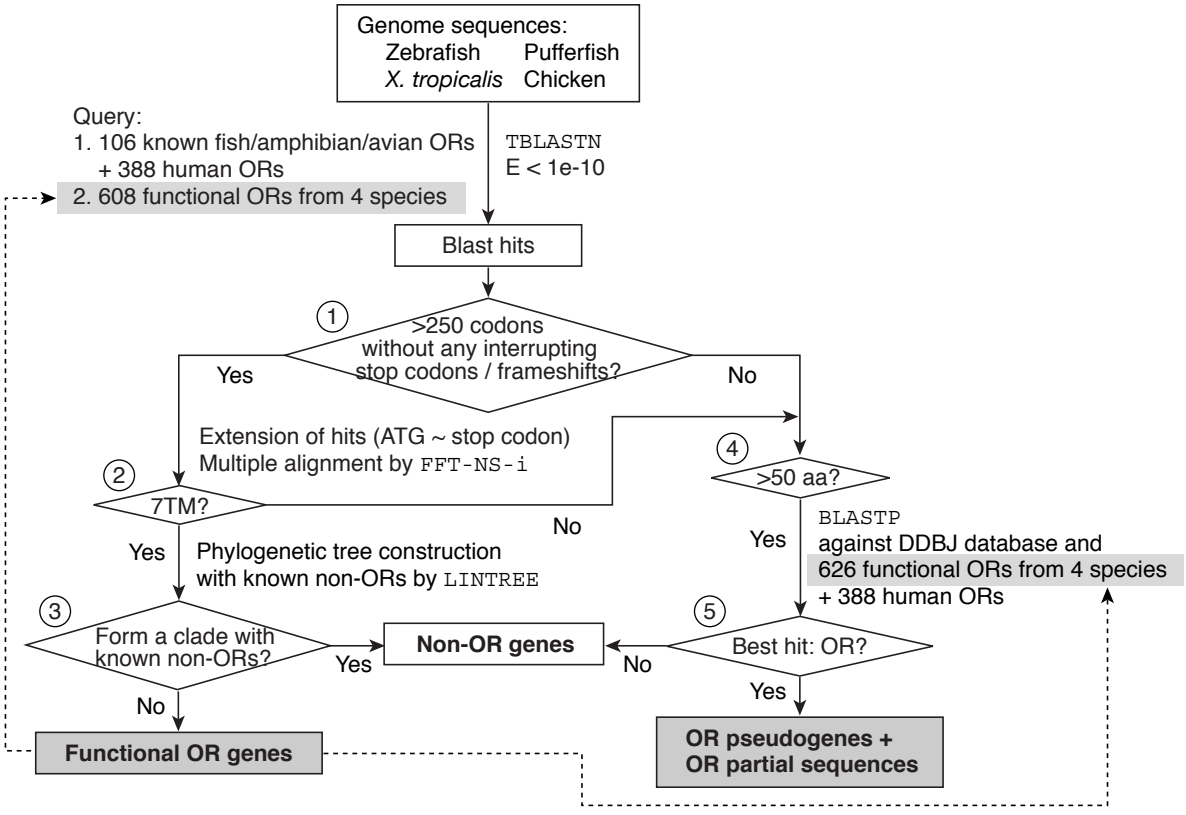
Genome sequences:
Zebrafish
Pufferfish
X. tropicalis
Chicken
Query:
1. 106 known fish/amphibian/avian ORs
+ 388 human ORs
2. 608 functional ORs from 4 species
TBLASTN
E < 1e-10
Blast hits
1
>250 codons
without any interrupting
stop codons / frameshifts?
Yes
No
Extension of hits (ATG ~ stop codon)
Multiple alignment by FFT-NS-i
2
7TM?
No
Yes
Phylogenetic tree construction
with known non-ORs by LINTREE
3
Form a clade with
known non-ORs?
Yes
No
Non-OR genes
Functional OR genes
4
>50 aa?
Yes
BLASTP
against DDBJ database and
626 functional ORs from 4 species
+ 388 human ORs
5
Best hit: OR?
No
Yes
OR pseudogenes +
OR partial sequences