

The Phylogeny of the MHPs and beyond

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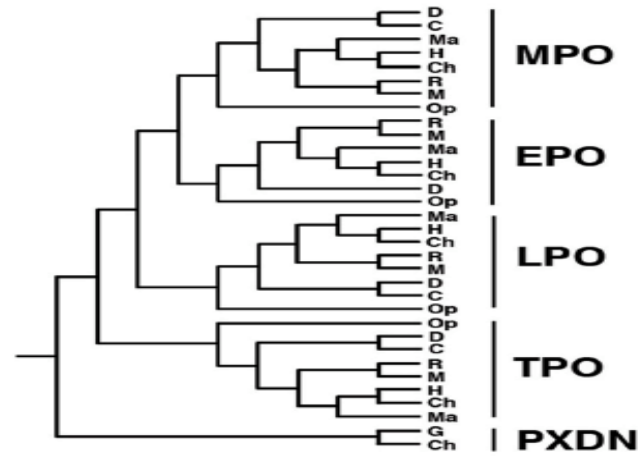
Noeleen Loughran, Brendan O'Connor, Ciaran O'Fagain

What are the MHPs ?

- *Mammalian heme peroxidases: Myeloperoxidase, eosinophil peroxidase, lactoperoxidase and thyroid peroxidase.*
- *Asthma, Alzheimer's disease and inflammatory vascular disease.*
- *Diverse functions*

Evidence for LBA

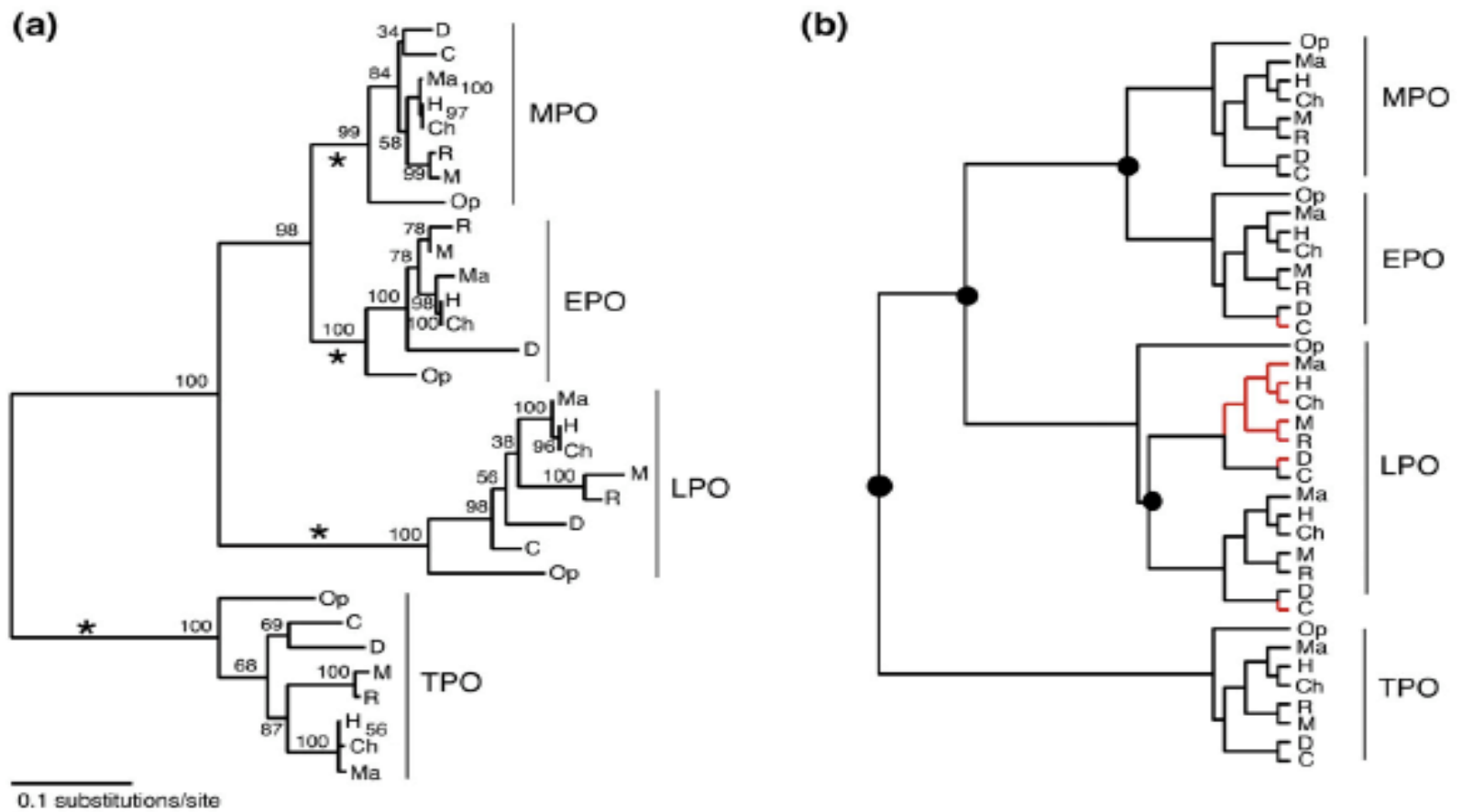
(a)



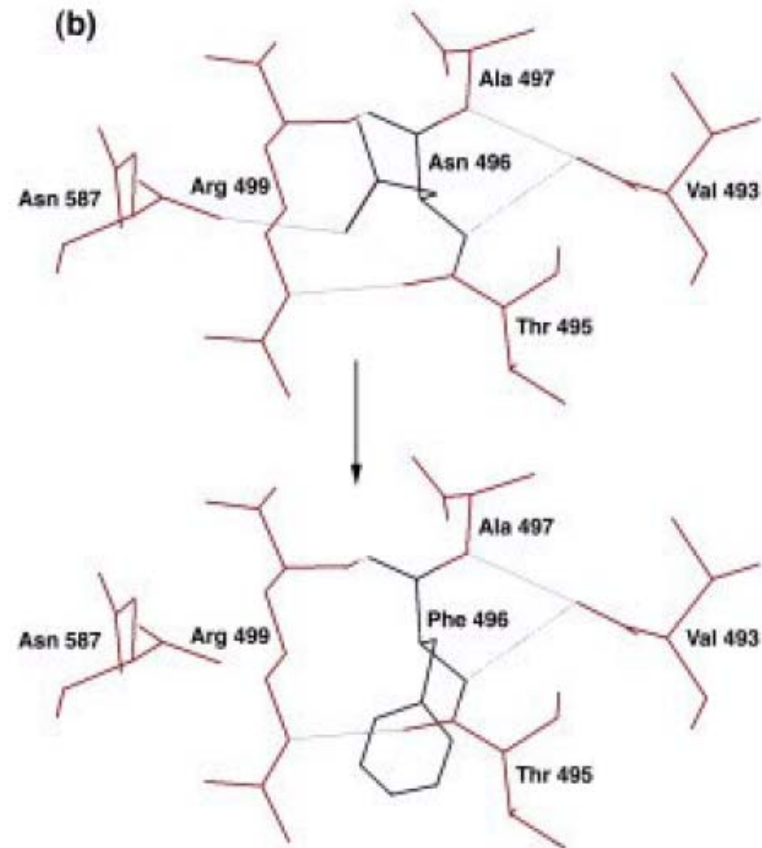
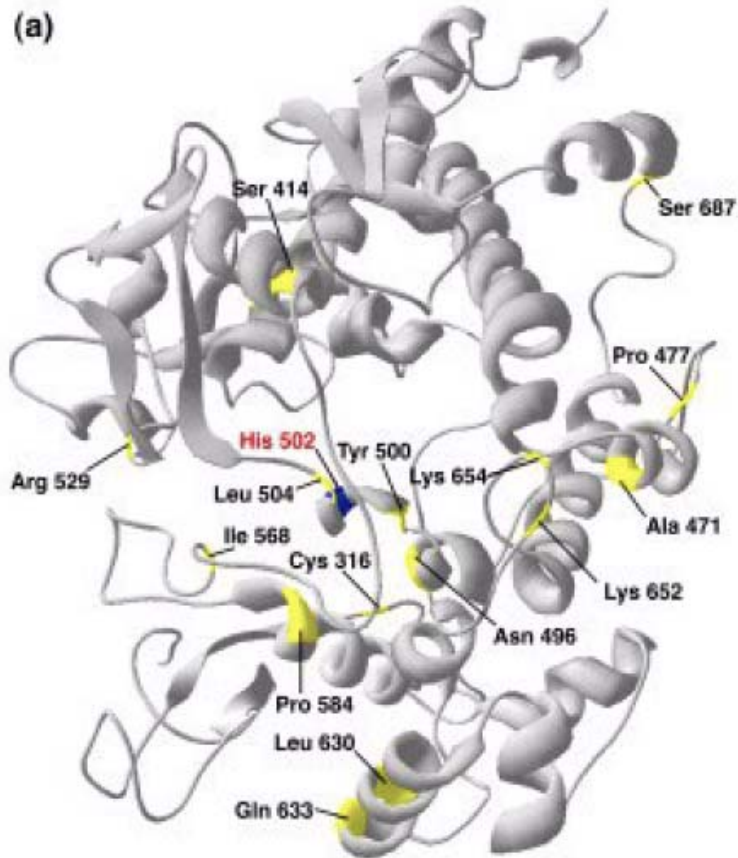
(b)



Resolved phylogeny for MHPs



Evolution of specificities e.g. MPO



Conclusion

- *Resolved relationship between these enzymes.*
- *Pinpointed the amino acid residues responsible for functional shift*
- *Currently testing these amino acid positions in vitro for functional effect.*