

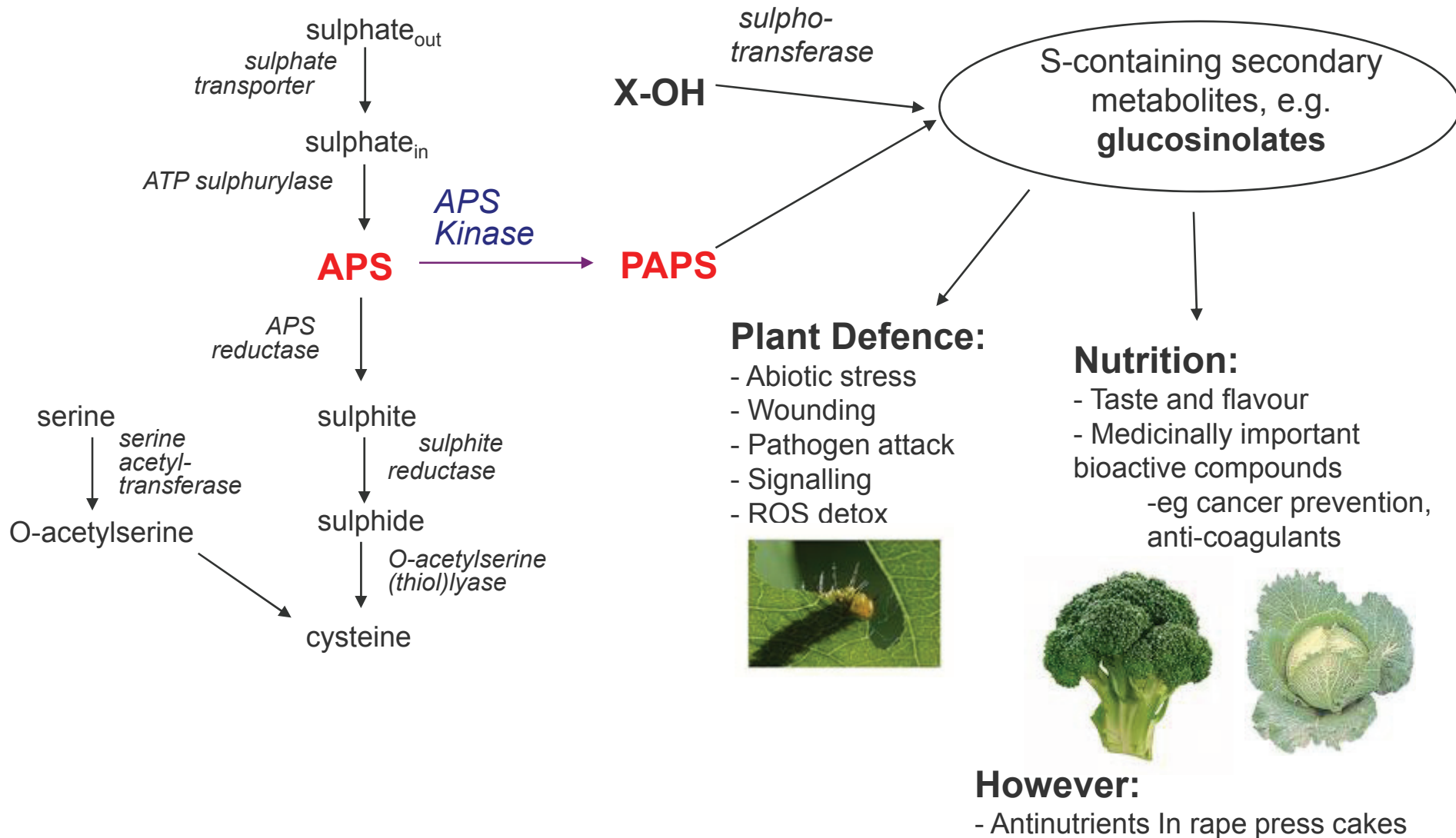


JOHN INNES CENTRE

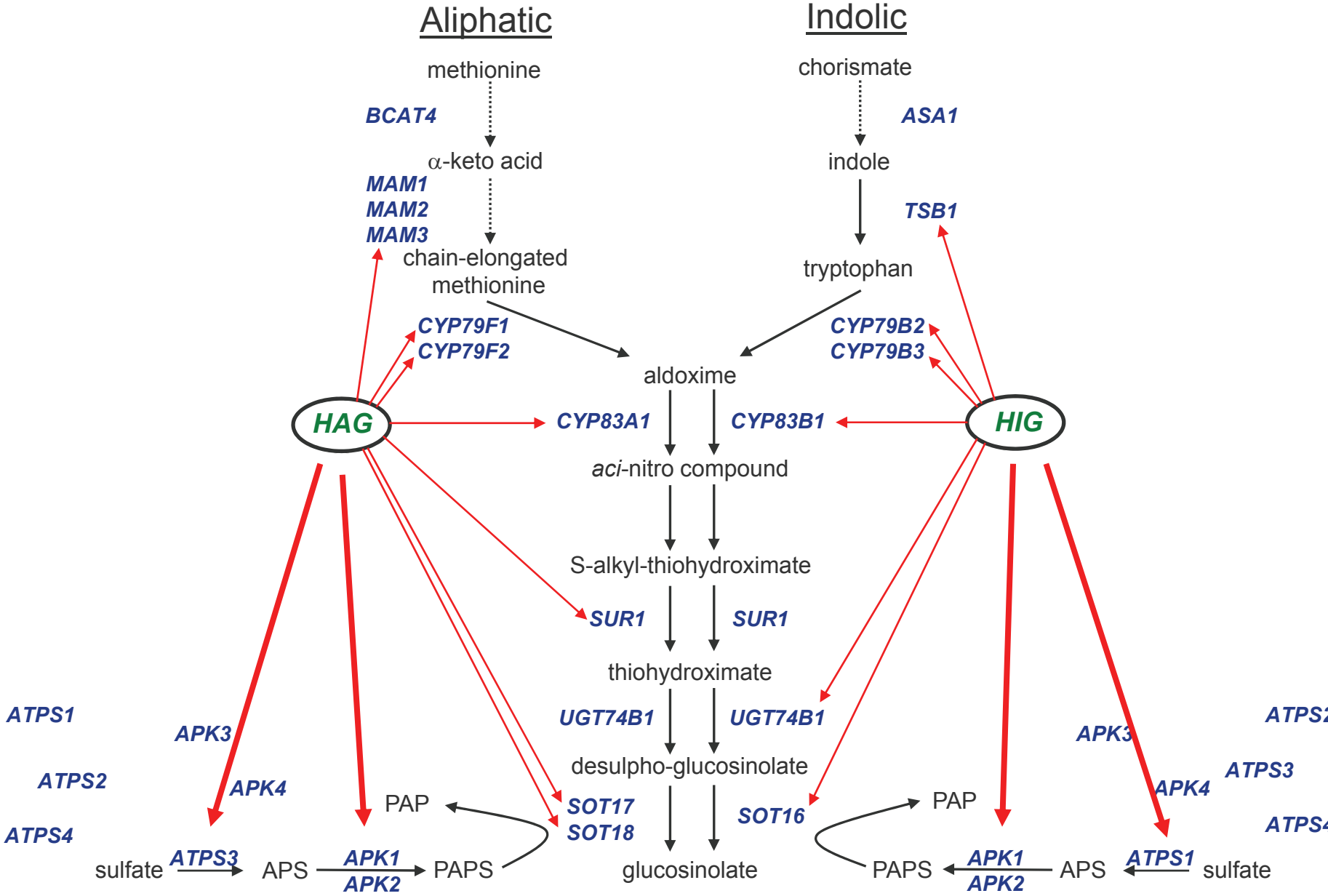
A new approach to modulate glucosinolate levels

**Sarah G. Mugford, Donatella Orlando
and Stanislav Kopriva**

Sulphate assimilation in plants

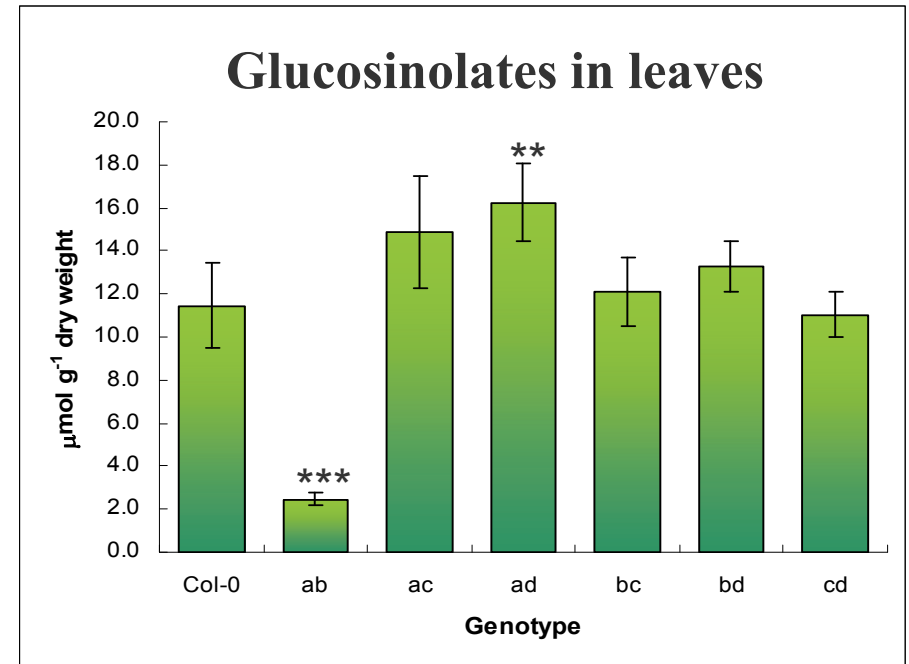
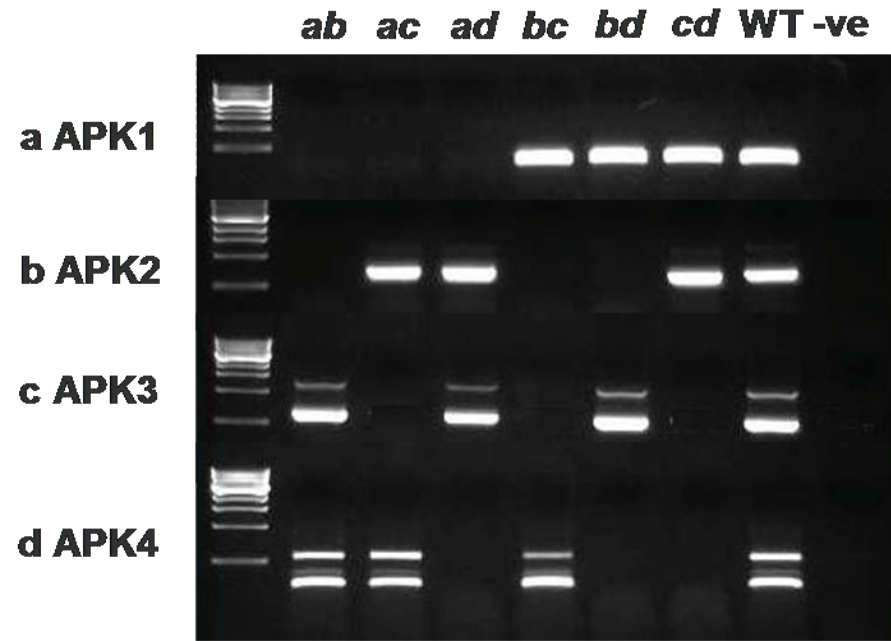


ATPS and APK are part of GLS synthesis network

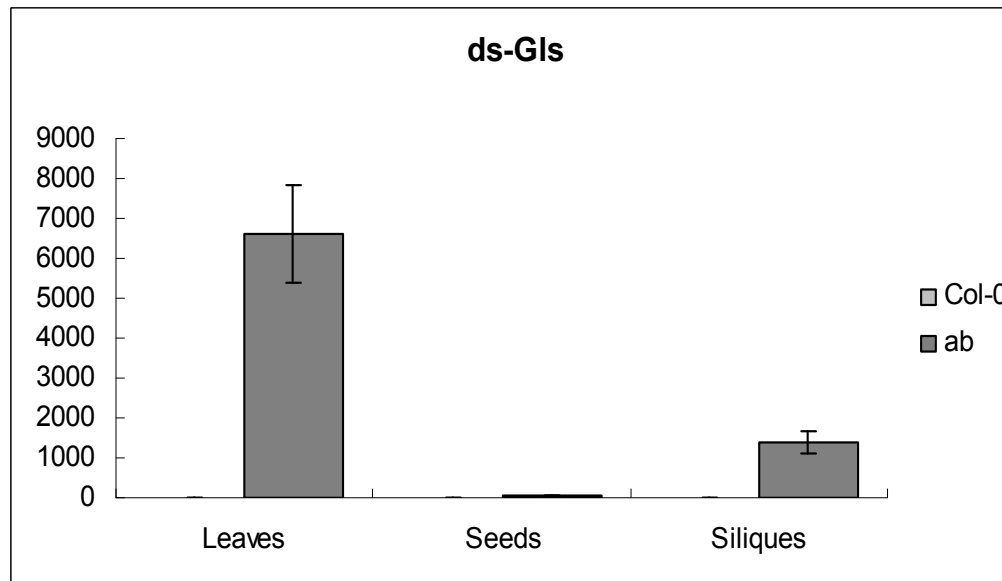
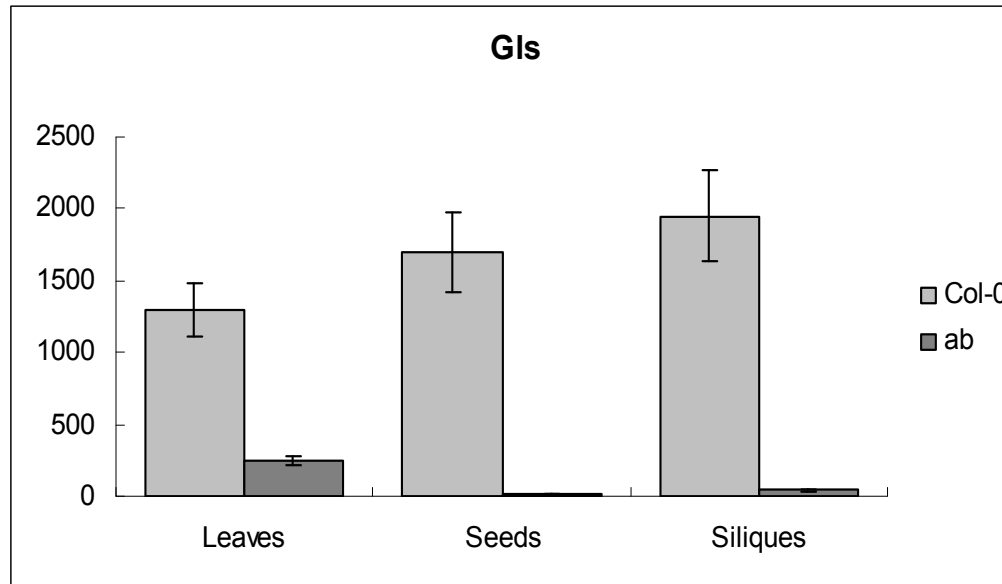


R.Yatushevich, T. Gigolashvili, I. Flugge

Arabidopsis with reduced APK possess low GLS



GLS are synthesised in leaves and siliques



Summary of Arabidopsis work

- **APS kinase APK1 and APK2 are part of glucosinolate network**
- **Reduction in APK results in low GLS content**
- **Ds-GLS precursors accumulation in leaves and siliques but not seeds reveals vegetative origin of seed GLS**

Possibility of tissue specific engineering of GLS

- **Reduction of APK by amiRNA in siliques**
- **Constitutive reduction of APK, complementation by tissue specific promoter**

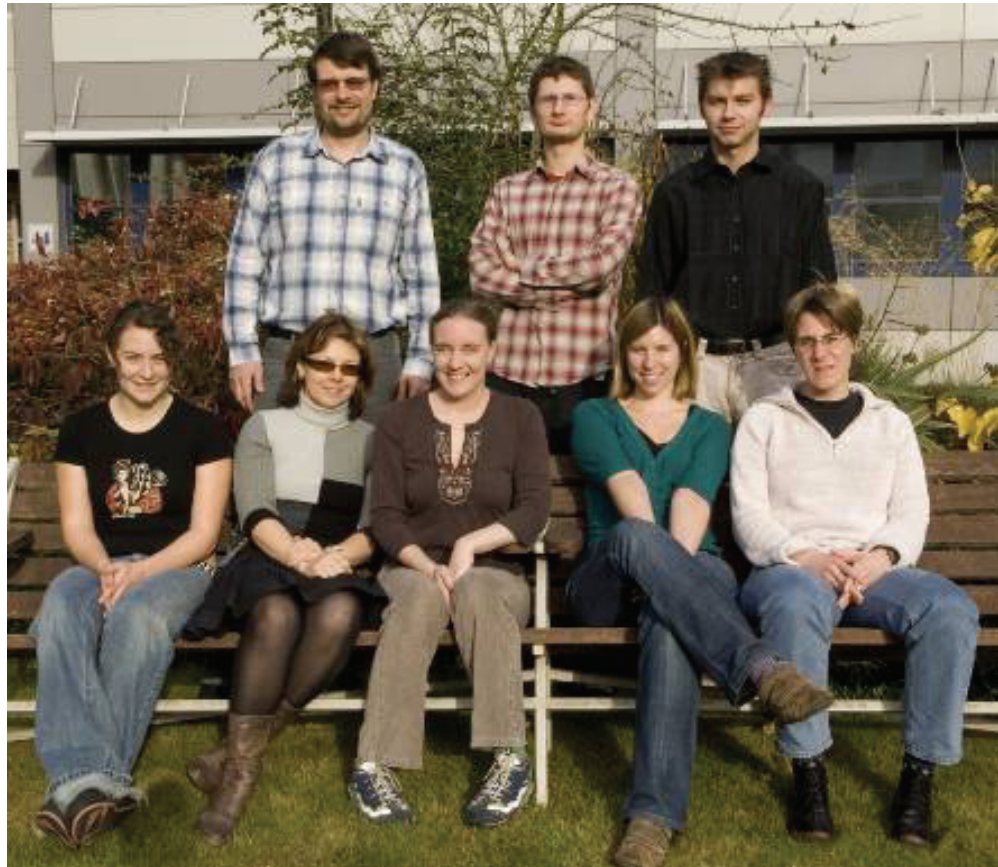
Acknowledgments

Plant Nutrition Group JIC

Anna Koprivova
Sarah Garton
Colette Matthewman
Nicola Hockin
Michal Bochenek
Bok-Rye Lee
Donatella Orlando

JIC Metabolite services

Lionel Hill



University of Cologne

Ingo Flügge
Ruslan Yatushevich
Tamara Gigolashvili

MP-ICE Jena

Michael Reichelt
Jonathan Gershenzon

