

Pegaspargase: A review in acute lymphoblastic leukaemia

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Pegaspargase:

A Review in Acute Lymphoblastic Leukaemia

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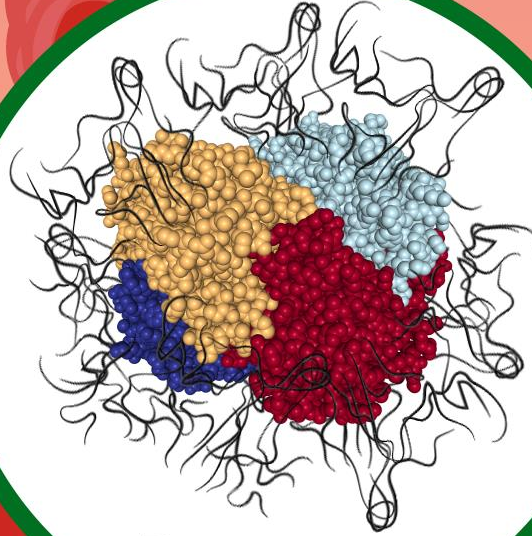
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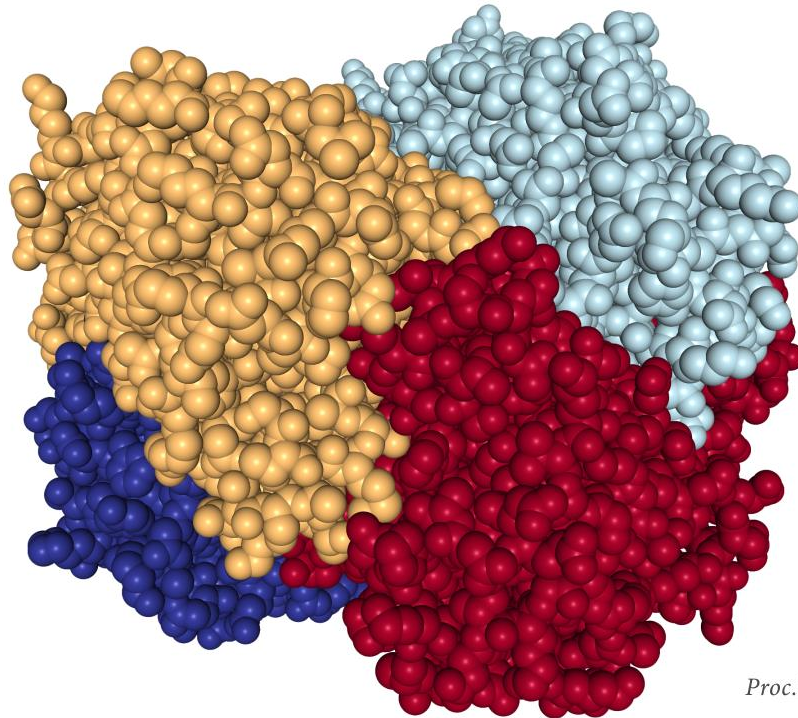
Pegaspargase

Normal blood

**Acute lymphoblastic
leukaemia (ALL) blood**

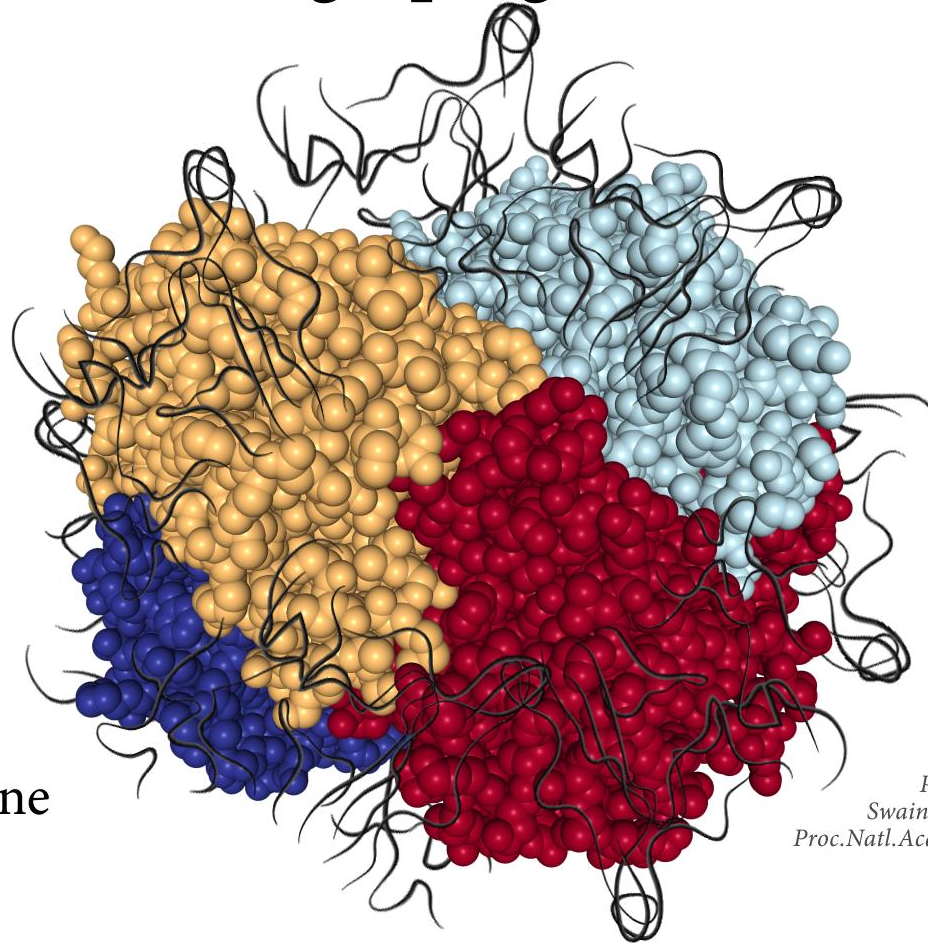


L-asparaginase



PDB ID 3ECA
Swain, A.L., et al.(1993)
Proc.Natl.Acad.Sci.USA 90: 1474-1478

Pegaspargase



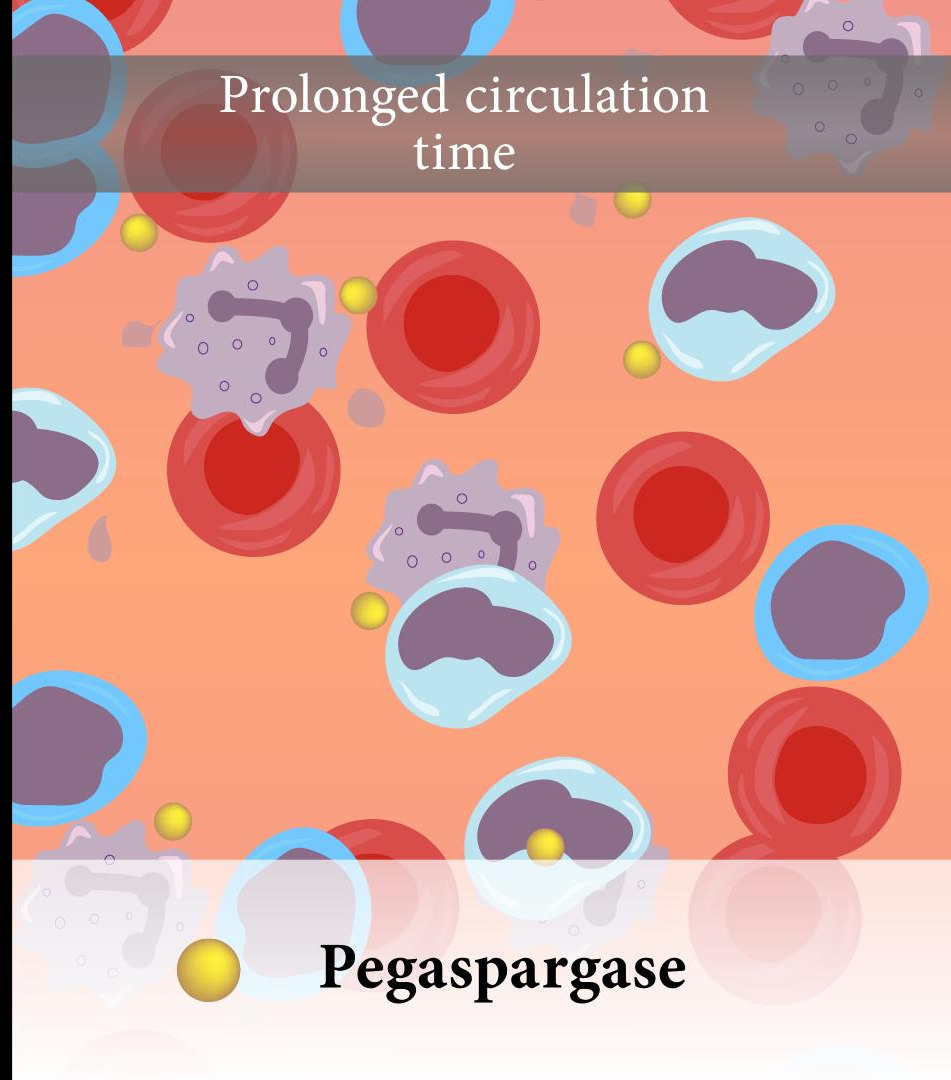
Polyethylene
glycol

PDB ID 3ECA
Swain, A.L., et al.(1993)
Proc.Natl.Acad.Sci.USA 90: 1474-1478



 **L-asparaginase**

Prolonged circulation
time



 **Pegaspargase**

Diminished
immunogenicity



L-asparaginase



Pegaspargase



van der Sluis et al. Consensus expert recommendations for identification and management of asparaginase hypersensitivity and silent inactivation. Haematologica. (2016)101: 279-85.

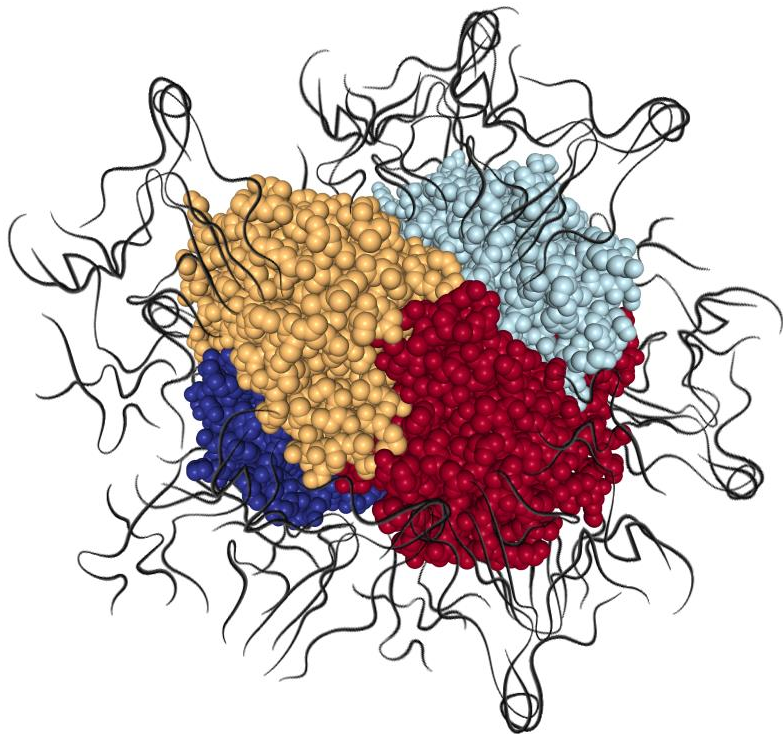
Asparaginase hypersensitivity

Clinical hypersensitivity

- ♦ Allergy symptoms / anaphylaxis
- ♦ Neutralizing antibodies detected
- ♦ Asparaginase inactivation, ↓ activity

Subclinical hypersensitivity (silent inactivation)

- ♦ Allergy symptoms absent
- ♦ Neutralizing antibodies detected
- ♦ Asparaginase inactivation, ↓ activity



Pegaspargase

Tolerability

Manageable profile in paediatric and adult patients with newly diagnosed ALL

Similar profile in patients with relapsed ALL and hypersensitivity to the native enzyme

Most common adverse events

Elevated transaminases and/or bilirubin

Prolonged activated partial thromboplastin time

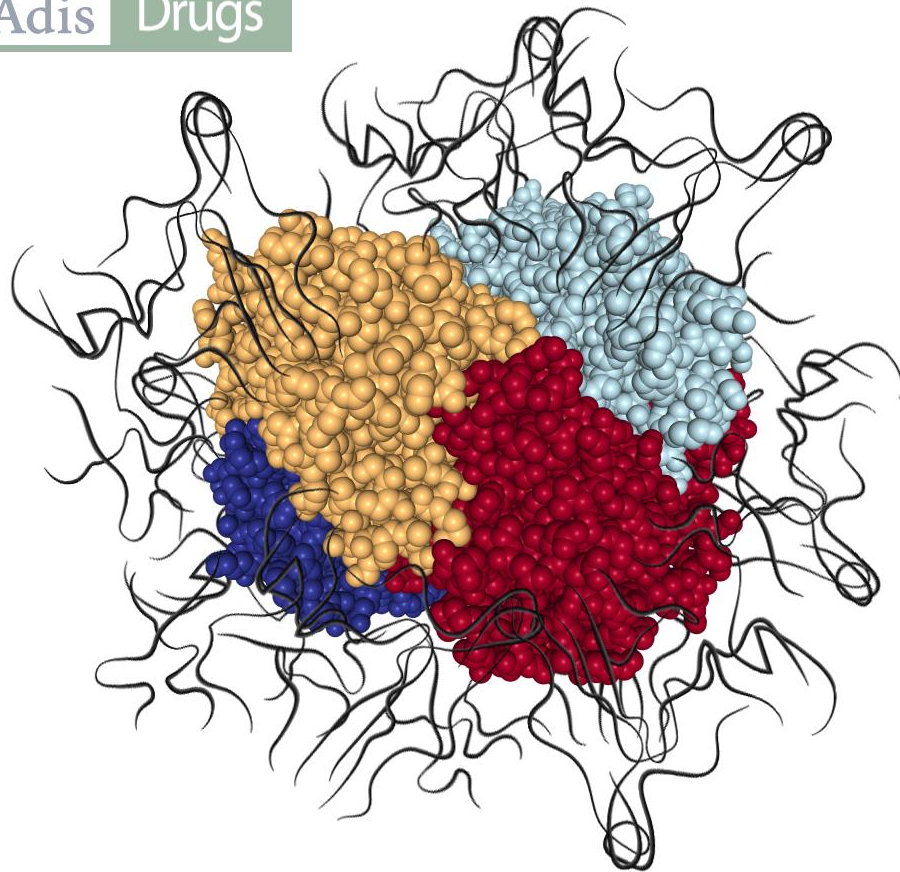
Hypertriglyceridaemia

Hyperglycaemia

Febrile neutropenia

Pancreatitis

Hypersensitivity reactions



Manageable
tolerability profile

Convenient dosage
regimen

Effective treatment
in children and adults
with ALL