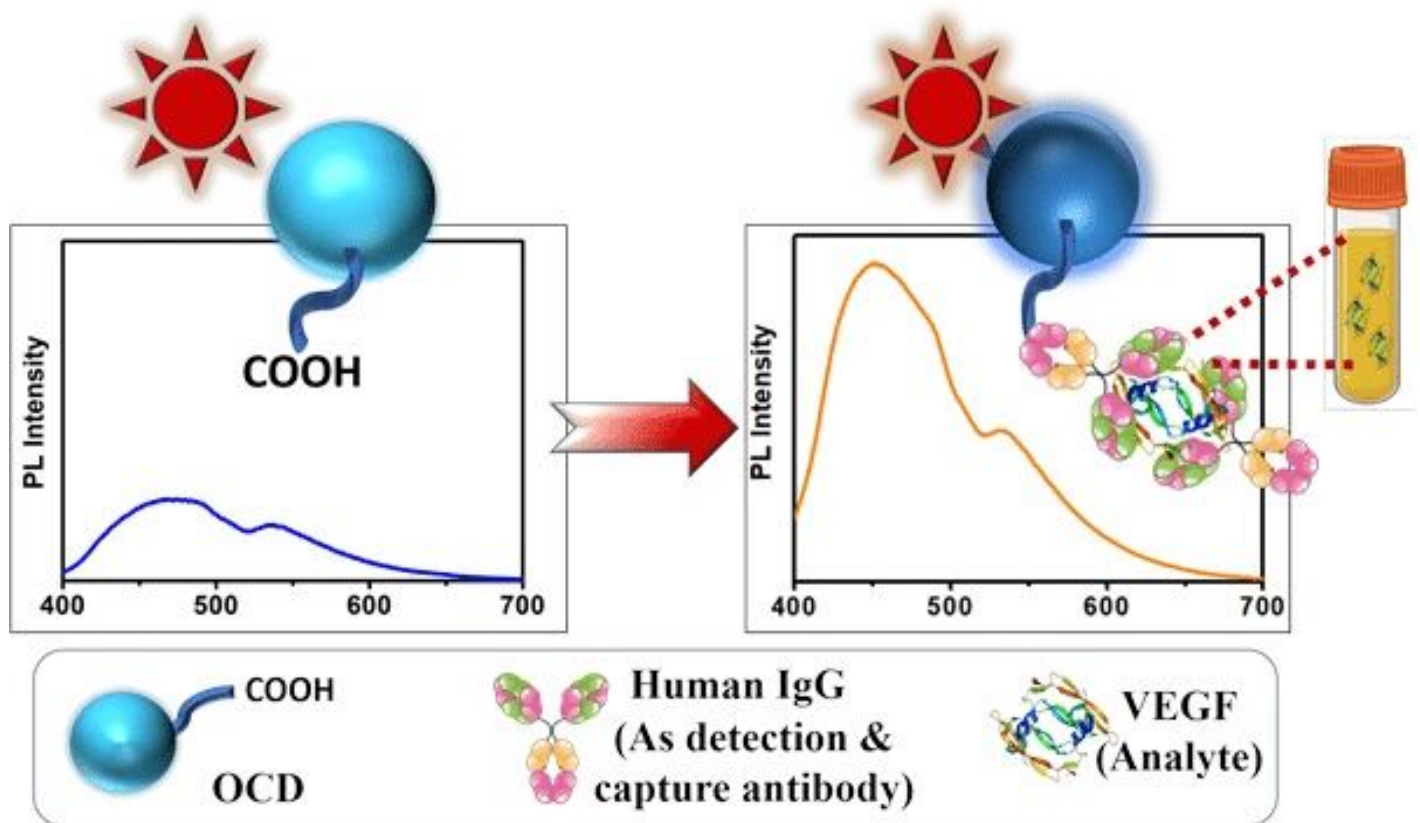


Vascular Endothelial Growth Factor Receptor

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About Vascular Endothelial Growth Factor Receptor (VEGF):

- It is a key regulator of **physiological angiogenesis** during embryogenesis, skeletal growth and reproductive functions.
- VEGF has also been implicated in pathological angiogenesis associated with tumors, intraocular neovascular disorders and other conditions.
- The biological effects of VEGF are mediated by two receptor tyrosine kinases (RTKs), VEGFR-1 and VEGFR-2.
- The VEGFR family of receptors is the **key regulator** of the process of **generating new blood vessels**.

Highlight of the research

- The researchers were intrigued by the fact that two members of family VEGFR 1 and VEGFR 2 **behaved quite differently**.
- While VEGFR 2, the primary receptor regulating process of formation of new blood vessels, could be **spontaneously activated**, without its ligand, the other member of the family VEGFR 1 cannot be spontaneously activated even when overexpressed in cells.

- It **camouflages as a dead enzyme VEGFR1** and binds with ten-fold higher affinity to its ligand VEGF-A than VEGFR2.
 - This ligand binding induces a transient kinase (speeding up chemical reactions in the body by an enzyme) activation.
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Q1: What are Endothelial cells?

These form a single cell layer that lines all blood vessels and regulates exchanges between the bloodstream and the surrounding tissues.

Source: Camouflaging as a dead enzyme VEGFR1 holds key to medical solutions for colon and renal cancers

Source: <https://vajiramandravi.com/current-affairs/vascular-endothelial-growth-factor/>

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