



Fondazione Italiana per la Ricerca sul Cancro

IFOM – Istituto FIRC di Oncologia Molecolare

## Publicazioni IFOM 2007

Nel 2007 gli scienziati IFOM hanno pubblicato **111** articoli di ricerca su riviste scientifiche internazionali, con un **impact factor medio pari a 9,016**.

### Focus

Tra le pubblicazioni del 2007, segnaliamo una ricerca diretta da **Pier Paolo Di Fiore**, il cui risultato è stato pubblicato a novembre sulla rivista *Journal of Clinical Investigation* (Bianchi et al., *Journal of Clinical Investigation*, 2007; riferimento bibliografico n. 60). Per mezzo di una serie di esperimenti condotti su modelli sperimentali e su tessuti umani provenienti da pazienti affetti da tumore del polmone, gli scienziati sono riusciti a individuare un gruppo di dieci geni che risultano alterati in maniera ricorrente in alcuni tumori e che identificherebbero proprio quei casi che hanno alta probabilità di sviluppare metastasi.

Un passo avanti nel campo delle leucemie mieloidi acute è stato compiuto grazie allo studio, pubblicato, a dicembre, ancora sul *Journal of Clinical Investigation* (Shing et al., *Journal of Clinical Investigation*, 2007; riferimento bibliografico n. 61) e condotto nel gruppo di **Pier Giuseppe Pelicci**. Gli scienziati, lavorando su modelli sperimentali e poi verificando i loro risultati direttamente nelle cellule leucemiche da pazienti, hanno identificato e caratterizzato una lesione a carico di un gene (PRDM16) che risulta "sovraespresso" nelle leucemie mieloidi (ogni gene "codifica" per una proteina, cioè contiene le indicazioni perché la cellula produca quella specifica proteina: un gene "sovraespresso" in pratica "lavora troppo", producendo in eccesso la proteina per la quale codifica). La scoperta getta luce su un meccanismo molecolare finora non spiegato nello sviluppo delle leucemie che, una volta iniziato il processo neoplastico, permette alla malattia di svilupparsi.

Continuando il suo studio approfondito dei meccanismi molecolari preposti al controllo del ciclo cellulare e all'integrità del genoma, **Marco Foiani** ha pubblicato ad agosto, su *Genes Development* (Bermejo et al., *Genes Development*, 2007; riferimento bibliografico n. 43), uno studio nel quale vengono localizzate alcune regioni "fragili" del genoma, dove è più facile che avvengano le rotture che possono portare al cancro. Gli scienziati hanno (quindi) utilizzato un "approccio genomico", e hanno esplorato in dettaglio tutte le aree del DNA dove le topoisomerasi sono attive, scoprendo le regioni precise dove, in caso di topoisomerasi mal funzionante, avvengono le rotture di DNA. Inoltre alcuni dei più classici farmaci antitumorali agiscono proprio sulle topoisomerasi: la scoperta di Foiani chiarisce il meccanismo molecolare di azione di questi farmaci per così dire di "vecchia generazione" e potrebbe aiutare nella messa a punto di nuovi farmaci, basati sullo stesso principio di fondo, ma più selettivi e mirati.

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